

ITEMS OF INTEREST.

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ORIGINAL COMMUNICATIONS.

PHYSIOLOGICAL CHEMISTRY AND THERAPEUTICS.

In the Alabama Society.

Reported by Mrs. Walker.

A paper bearing this title was read by Dr. O. C. Farish. In this excellent paper, which was commended highly and discussed at some length, Dr. Farish reviews briefly some of the universal phenomena of physiological chemistry, as the absorption of new material and the throwing off of effete matter; the incessant removal of organized material; the direct relation between the quantity of material consumed and the active manifestations of life; the material conditions necessary to life, as the consumption of oxygen and the discharge of carbonic acid; the presence and absorption of moisture; the definite limits of temperature; the specific proportions of certain chemical ingredients and the parts taken by them in the act of nutrition, in giving special character to the different organic tissues and fluids of the body; the way in which they are supplied and the changes which they undergo within the body; the phenomena of endosmosis and exosmosis, and the function of chlorid of sodium in this wonderful process, and many other interesting points.

Passing on to special therapeutics, the writer dwelt especially on the importance of noting the pathological conditions, not only of the mouth, but of the system generally, and the necessity in many cases of systemic treatment before local treatment can become available or of any benefit. In treating pathological conditions he urged the prime importance of first ascertaining and then of removing the causes of irritation.

This last point was made the special feature of the discussion which followed the reading of the paper.

Dr. W. H. Morgan said all cures depend on the removal of the causes of disease—first ascertain, then remove the cause. In oral diseases, however, it is difficult to ascertain the cause; especially

is the cause of caries obscure, and even when we can detect it we cannot remove it. We do not treat abscess; we simply remove the cause—nature does the rest.

Dr. J. Y. Crawford, Nashville, Tenn. (honorary member), dwelt at some length on the importance of treating from a constitutional and systemic standpoint. He said we are not doing our whole duty when we assume to treat and manage as a specific affection that local form of disease known as dental caries; it is a pathological factor of systemic origin and from local surroundings and environment. Away back of, and antedating present conditions, are etiological factors found in the organism. There is hereditary transmission of caries from father to child—a physical dyscrasia, susceptibility, is present in marked degree. What is the most common cause of secondary or recurrent decay around fillings? There are etiological factors that cause failures of fillings from the hands of master operators. There are conditions of pericementitis due to physical dyscrasia that you may treat locally for days and weeks in vain till you resort to constitutional therapeutic treatment. In pulpitis the nervous system is involved—constitutional conditions aggravate it. You must control the heart's action. Anodynes alone are of no service, the pulpitis remains unchanged; but give a heart sedative, lessen the power of its action, and then your anodynes will prove of avail. Then follow out the suggestions of the paper. Look after the preceding pathological conditions that led up to the local trouble. We have learned to look for causes back in the organism, back of the tissues involved in the metabolism. We upbuild and restore equilibrium. Through the lines of chemical therapeutics and physiology much may be accomplished. If the question of the etiology of diseases pertaining to the mouth is solved by odontological science it will hold a position paramount to all other sciences.

Dr. L. D. Carpenter, Atlanta, Ga., addressed himself to the younger members of the profession. To them he said: Be constant in investigating; there are great improvements to be brought forth; much to be accomplished; much in pathology that is puzzling and vexing to us now will be made clear and easily handled in the future as the result of your work and your investigations.

Dr. Wm. Crenshaw, Atlanta, Ga., also placed the great work of the future in the hands of the younger men of the profession. He said: I hope they who enjoy all the increased advantages of study offered in these later years will let us hear from them. So many duties crowd and press on the older members that they are not able to give the time and the careful thought these investigations demand.

POINTS FROM THE ALABAMA DENTAL SOCIETY.

Dr. J. A. Frazier explained his method of "taking the bite" where the patient protrudes the chin, as is so often the case. After the wax is in the mouth, he places one hand on the back of the head and the other over the chin, exerting a strong pressure at the moment the mouth is ordered closed.

Dr. J. E. Frazier, in difficult cases, stands behind the patient and places the thumbs in the sigmoid notch.

Dr. W. H. Morgan, Nashville, Tenn., said there was no method of taking the impression for an articulating model that is of universal application. The ligaments which control the condyle are very lax in some cases, and strongly elastic in others. Some can draw the jaw much farther back into the glenoid cavity than others. With some patients it is almost impossible to get them to relax the masseter muscles.

A very good method with some is to direct the patient to throw the head back and swallow at the moment of biting into the wax. With some it is impossible with all your efforts to get anything but a "jimber-jawed" bite, and after the teeth are waxed up, you have to rearrange them to fit the mouth.

Dr. Merrill spoke in the late Alabama Dental Meeting of the importance of correct nomenclature in discussing prosthetics. He said: We talk about impressions and molds and models and patterns and casts in a very confused and confusing manner. The proper nomenclature of the process of constructing an artificial denture is first the impression taken from the mouth; then the cast obtained by pouring plaster into the impression; then the model built in wax on the cast; then the mold left after removing the wax, into which is pressed or poured the material of which the plate is constructed.

NITRATE OF SILVER.

Dr. S. W. Foster, of Alabama, protects a tooth that is to be crowned, from one sitting to another, by placing in contact with the dentine a pledget of moistened cotton on which he has taken up some crystals of nitrate of silver, holding it in contact with the tooth by means of one of the little gutta-percha caps; this quite prevents or relieves the sensitiveness of dentine.

Dr. C. L. Boyd uses nitrate of silver very freely, not only in preparing teeth for crowns but in buccal cavities of decay, and for teeth that are worn by abrasion. To be effective it must be held in contact for some considerable time.

Dr. Chas. A. Merrill confirmed this from his experience. It is

escharotic in its effect, constringing the vital tissues in the tubules of the dentine, being in this way very penetrating.

Dr. H. D. Boyd finds the value of nitrate of silver for these purposes greatly enhanced by moistening it with alcohol instead of saliva or water.

FOR SENSITIVE DENTINE.

Dr. Chas. A. Murril commends the old stand-by, chlorid of zinc. In some few cases it may produce severe pain, and in rare instances it may destroy the pulp, but as a rule he finds it very satisfactory, enabling him to excavate a layer of dentine when another application may be made, and so on until the tooth is in good shape. He uses it when merely deliquesced, getting the escharotic action.

In case a tooth cannot be prepared for crowning at one sitting, he molds over it one of the little gutta-percha caps which come for that purpose, which keeps the tooth comfortable till the next sitting. If a cavity is very deep, and the dentine very sensitive, he protects the region of possible pulp-exposure with a wafer of Gilbert's temporary stopping, before applying the chlorid of zinc.

ARSENIC DOES NOT ALWAYS KILL A PULP.

Dr. A. A. Parsons, of Alabama, where a tooth was so sensitive that the patient could not bear a filling of cement, which was replaced with gutta-percha, and still the patient complained of unbearable pain and demanded the extraction of the tooth, had applied arsenic in the cavity and filled with cement, fully expecting the nerve to die. But the patient did not return for more than a year, when everything seemed to be quite satisfactory. Thinking, however, that the nerve must have died, he tried to remove the cement filling, but found the dentine still so very sensitive that the patient would not allow of any excavating, so he concluded that the tooth must be still alive, notwithstanding the arsenic. Dr. J. T. J. Watson has had a similar case of eight years' standing.

A FEW EXCELLENT ITEMS.

Dr. J. W. Greene, Trenton, Mo.

Comparatively few dentists can work gold properly in filling teeth—all agree to that. Yet it is really a fact that still fewer can uniformly make the best of oxiphosphate. I frequently see cement fillings of my competitors, as well as my own, that have stood the test from ten to fifteen years, even in frail teeth. They happened to be mixed and inserted right. Yet other work of the same material, by the same hands, at the same time, in the same mouths,

has given out long ago. In these the material was improperly mixed or the work otherwise faultily done, or both—more probably the former.

Why do the "best men" advise to fill cavities two-thirds and three-fourths full of soft gold and then finish out with cohesive? Don't they know that cement is the best thing to use in the bottom of cavities? (And in a whisper we might say: In the top, too, if mixed just right.) If dentists would make as much effort to learn what they don't know, from their competitors, as they do to make themselves believe they know the most, what a valuable stock of knowledge some of them could get "without money and without price."

The "foolishest" thing a dentist can do is to put in artificial teeth cheaply. Learn to select harmonious styles, natural colors, and arrange them artistically in the mouth; then make fits that your competitors cannot, especially in lower sets, and you can get good fees.

If a full lower plate, foolishly called a "denture," has no suction at all, just admit its lack of fit and do it over; and if you don't know how to make it suck fast, learn how.

All that part of an amalgam filling which comes in contact with the walls of a cavity should be burnished in. And to properly mix the amalgam it should be well kneaded in alcohol. Such kneading will reduce its bulk at least 20 per cent, and of course solidify the filling that much, by disposing of the surplus mercury readily.

About the most expensive luxuries that a dentist can indulge in are: A dingy, dirty office; unpolished and rusty instruments; rough hands and unkept nails, and shabby clothing. If he is a poor man he can't afford them.

The "guarantee" that should accompany every full or half set of teeth should be that the patient can chew even the toughest dried beef, "on the spot," without displacing the plates, before she leaves the chair or pays for her work. And then and there she must be made to understand there is to be no grumbling afterward, and no further "warrant."

There are three steps in the evolution of the air chamber business: First, to stamp it in with lead or tin, instead of the bungling way of engraving the impression; second, not to put it in the front of the mouth, but well back, with its edges beveled so as not to irritate the membrane; third, to truly regard it as an excuse for a poor fit and leave it out entirely.

Dr. D. W. Walker is correct in filling broken down front teeth with amalgam and then removing the front part that shows for the

insertion of gold. I do the same when I use cement. In this way the lingual walls of frail front teeth can be nicely squared out permanently to feel good to the tongue. It may appear silly to some dentists to say there is not only more honesty, but more money, in this sort of work, than in riding the silly exclusive gold hobby.

AN ORIGINAL CROWN.

Dr. J. H. Crossland, Montgomery.

For the crown described by Dr. Crossland, the root is prepared as usual for an ordinary porcelain crown. With a very fine drill, preferably one with a gage, a series of holes is drilled as near as practicable to the circumference of the root and the interspaces cut out, forming a groove in the face of the abutment. A band of 28 or 30 gage, 24-karat gold is fitted into this groove and ground off to the base of the root. To the band is soldered a flat cap of pure gold, 34 gage, using as little solder as possible, 20-karat. This is replaced in position and burnished to the face of the root. It is then punched and a platinum post placed in position, secured with hard wax, inverted and soldered, the cap being trimmed accurately to the outlines of the root end. A plate tooth is then backed with gold as follows: The tooth is ground at the gingival end to fit the cap and beveled from pins to cutting edge. From 34 gage 24-karat gold a backing is cut slightly longer than the tooth which is punched, placed in position in the tooth, and held by bending the pins. The gold is burnished thoroughly to the tooth and slightly over the square end or bevel of cutting edge.

Another backing is cut, long enough to burnish over the articulating edge to thicken the gold at this point, in which a number of holes are punched to insure perfect union in soldering.

All the parts being placed in position, it is carefully waxed up and invested as usual for soldering.

Dr. Crossland claims for this crown that it is less bulky and more shapely than the old ferule crown; exposes no gold at the gum margin; allows a much more favorable and accurate adjustment with regard to other teeth; can be used when convergent or divergent roots are to serve as abutments for bridges; is especially adapted to conically shaped roots; causes less pain in adjustment, and will not irritate the pericemental membrane. It is extremely cleanly, as the joint between gold and tooth can be made about perfect. The band and cap may be made of platinum and a porcelain backing baked, producing a highly esthetic crown.

PARENTS' CARE OF CHILDREN'S TEETH.

A paper was read in the late Alabama Convention to promote some method of reaching the public—other than by personal instruction at the chair, which shall not be open to the charge of violation of the code of ethics, as a form of self-advertising. The plan is a pamphlet, to be gotten up by a committee appointed by the Association, and issued by the Association for general distribution.

Dr. J. T. Stuart endorsed the paper, and emphasized the need of something more than the laborious and unsatisfactory method of individual effort. He said: "We have not time to give a course of hygienic lectures to every patient."

Dr. C. L. Boyd endorsed the plan suggested, and thought that endorsed by the Association it would have a powerful effect on the public, and also tend to elevate the profession in the eyes of the public, showing them that we are not working solely for the dollars, nor aiming only at repairs of damages, but that we are able to offer means of prevention as well as of relief. He thought it would be well for the pamphlet to include a formula for a safe and effective dentrifice for those who do not go to the dentist, but who go to the drug store, and buy, in their ignorance, that which is worthless, if not positively injurious.

Dr. W. G. Browne thought such a pamphlet would reach only those whom we reach in our offices; that the general press is the best medium through which to reach the general public. Short, terse, well-written articles on subjects calculated to interest the public will always be accepted by your daily or weekly newspaper, and will be read by those who patronize quacks, because they read their advertisements and believe in them. If you want to reach your patients, give them Mrs. Walker's book, "Letters to a Mother," that will teach them all they need to know about their children's teeth, but if you want to reach the general public you must do it through the public press.

Dr. Morgan spoke in commendations of the pamphlets in this line, one issued many years ago by J. W. White, and another more recently by "Mrs. W. J. Walker," well adapted to the purpose.

Dr. Williamson thought every dentist ought to have just such literature ready for presentation in reply to the questions that are asked, and which the dentist has not time to answer in detail while busy at the chair—questions which are suggested to the mother, or the friend by the work in hand. We must educate the parents for the sake of the children.

ETHICS.

Dr. J. Y. Crawford.

Ethical conduct is more essential in dentistry than in any other profession. Dentistry is purely ethical, for it is in accordance with the best interests of the human family. Ethics, from a broad standpoint, covers the whole course of conduct in all walks of life. . . . When a young man enters on life he should feel that his first great aim is the support of all institutions that are for the good of humanity. In politics he should feel that it is his ethical duty to cast his vote for the man he deems best fitted for the place, as much his duty as to testify truly if called on before a court of justice for the good of his country, his people, himself; he is born under these obligations. When a young man receives his diploma, whether it is put in words or not, he voluntarily assumes the obligation to do what is right in all his professional obligations, as truly as though he had put his hand on the Holy Evangelists. In entering into these professional relations he purposes to confer benefits on humanity, and unless he wholly lives up to this he violates his highest moral obligations. If he wilfully and knowingly, for the sake of money, violates the code of ethics of his profession, whether he has joined any dental society or not, he does wrong, and the evil will find him out, "Whatsoever a man soweth, that shall he reap."

In the Alabama Society Dr. Hinman passed around for inspection some aluminum crowns which were united as for bridge-work by an aluminum solder sent to him for testing by The Wilmington Dental Manufacturing Company, Philadelphia, also some pieces of plate aluminum united at the edges. The union was apparently very perfect and strong. Dr. Hinman said that he had not as yet had opportunity of testing the solder in the mouth, and could not say how it would stand the action of the oral fluids. In answer to a question as to the flux used, he stated that the flux was combined in the stick-solder as furnished by the manufacturers, special instructions being furnished for its use, which differs somewhat from the methods employed in soldering other metals. Dr. Hinman spoke of the merits of alumnol, and aluminum salt, very valuable in dental practice as a non-poisonous, antiseptic astringent, which has a deeper seated action than the astringents in general use from the fact that the precipitated albumen redissolves in an excess. Alumnol also dissolves in purulent secretions, excluding

the possibility of choking up by the coagulation of albumen. Alummol is especially valuable for reducing the inflammation of the gums over erupting wisdom teeth, introducing it under the overlying tissues where it is rapidly absorbed with very beneficial results.

[Alummol may be obtained from Schulze-Berge & Koechl, No. 79 Murray street, New York.]

Dr. T. P. Hinman, Atlanta, Ga., described and demonstrated at the recent Alabama Dental Meeting, a rapid and simple method of securing perfect apposition between a Logan crown and the abutment of the root. The root having been properly prepared and trimmed, a small piece of paraffin is molded around the pin, close up to the porcelain. A small disk of No. 60 tin-foil or platinum is then cut, a little longer than the abutment of the root, and threaded on the pin close up in the wax. The crown is then placed on the root, the pin having been bent, if necessary, to secure alignment, and forced closely into place, the wax driving the foil disk into perfect apposition with the abutment of the root, of which it receives a perfect imprint. Removing carefully the crown, with wax and foil in position, with a warm blade, all the excess of wax beyond the circumference of the root is trimmed away and the projecting margins of the disk snipped with sharp fine-pointed scissors, at intervals to the imprint of the abutment. A small pellet of wax is then placed on the point of the pin, and the whole invested, point down, in quick-setting plaster just up to the porcelain. When the plaster has set, remove the crown, the snipped edges of the disk securing the latter in the plaster, leaving a perfect metallic-surfaced model of the abutment of the root, exposing to view every surface in all its diameters. The crown being cleaned of the wax is then ground to the root expeditiously and accurately, the pellet of wax which was placed on the end of the root allowing space for the pin to penetrate deeper in the plaster model of the root, as the porcelain is ground away. This method will be found applicable to all of the teeth for which Logan crowns can be used, and for all porcelain crowns which have platina pins baked in them.

Mrs. M. J. Walker.

Mrs. F. C. Treadwell, of San Francisco, must be one of the earliest practitioners of dentistry. She says: "In December, 1853, I entered a school of dentistry in Cleveland. I finished my studies in April, 1854."

KILLING AN ABSCESS.

Dr. J. D. Adair describes the method of using the kalium natrium (potassium-sodium) preparation of Dr. Emil Schrier, and reports very satisfactory results in a number of cases. In one case he had vainly treated for six or eight weeks abscesses of three superior incisors, which were to receive Logan crowns. As the young lady had to return to her home in Baltimore, he concluded to make an application of the preparation and fill the roots without further delay. There was still pericemental tenderness with pus constantly present. The Logan crowns were put on at the final sitting. It was five months before he heard from the case and then he was greatly rejoiced to learn that the abscesses had given no further trouble and that the teeth were in every way comfortable.

It is now ten months since the crowns were put on and they are still perfectly satisfactory, having been heard from several times during the past five months.

SENSITIVENESS OF TEETH AFTER FILLING.—I have a number of times filled badly-decayed front teeth with gold, placing a non-conducting substance next the pulp, and then had the patient complain that every breath of air set them to aching, so much so that unless something was done to relieve them the fillings might have had to be removed. My remedy has been to have them take chewing gum and chew it enough to thoroughly remove the sugar, and then keep the offending tooth and filling covered with a small wad of the chewing gum for a day or two, which in every case has prevented further trouble. *D. S. Thomas, Somersette, O.*

[Much better to properly prepare such teeth before filling. The least swab of a saturated solution of nitrate of silver covered with oxiphosphate will prevent this sensitiveness. It is too great a risk to depend on an after outside covering.—ED. ITEMS.]

A young man came to me complaining of neuralgia in right molars. I found them in a healthy condition, the trouble being between the first and second molars above, caused by broken pieces of a toothpick deep under the gum.

Why should we persist in using wooden toothpicks? How often we hear of their splinters lodging in the soft tissues of the mouth or in the mucous membrane of the throat?

E. E. Kirkpatrick, Oklahoma City.

DENTAL LEGISLATION came in for a good share of the time of dentists at the recent meeting at Washington, D. C. Dr. Emory A. Bryant, formerly of Denver, now a specialist in crown and bridge-work, with Dr. Geo. B. Welch, in Washington, gave a paper on this subject that elicited much favorable comment. He would have all State laws merged into a general Law of Congress.

Drs. Jackson and Meeker, of the State Dental Board of New Jersey; Dr. Goddard, of the California Board; Dr. Barlow, also of New Jersey, and Dr. L. Ashley Faught, of the Pennsylvania Board, all took an active part in the discussion.

It was the view of those who presented papers that dental college diplomas should be passports in any State to the practice of dentistry. The critics were in favor of Boards of Dental Examiners. All, however, seemed united in the idea that there should be some method or laws devised by which a man who is worthy to practice in one State could go into another and begin practice without having to wait for examination.

The New Jersey men stated that all State Boards of Dental Examiners, from Maine to Virginia, were invited to meet with the New Jersey Board at Asbury Park in July, to discuss this question of uniformity in legislation.

PARADOXES OF LIFE.

The hand that beckons us to glory waves us out of impenetrable clouds. We walk in a way that we know not. We labor for our Master, but never know beforehand which shall prosper, whether this or that. We lay wise plans, and they miscarry; we commit gross blunders, and they are overruled for good. We run toward the light, and it goes out in darkness; we sink shivering in the darkness, and find light. We pray for joys and they mildew into griefs; we accept the griefs, and they blossom into joys. To-day the apple turns to ashes, and to-morrow the stones to bread. We exalt in some prosperity, and get leanness with it; we murmur at some adversity, and find it big with blessings. We run toward an open door, and dash our heads against a granite wall; we move against the wall at the call of duty, and it opens. The lines of our lives are all in God's hands. What shall befall us we cannot tell; what is expedient, we cannot know. Only this we know, that God would shape us to Himself, whether it be by the discipline of joy or the discipline of sorrow. To make us perfect as He is perfect, this is the choice of our Heavenly Father, this is the end of all His revelations; while everything not helpful to this He hides away.

Dr. Roswell D. Hitchcock.

THE GREATEST GOOD TO THE GREATEST NUMBER.—Dr. F. D. Hodgkin, in the March ITEMS, speaks of the unity of the dental law. He agrees with Dr. Atkinson, provided the person has obtained a certificate of examination from a State Board.

He forgets that if a dentist is given a license by a newly-created State Board, it is on the evidence that he is competent to practice his profession, and while a few unworthy may step in by fraudulent swearing, the majority are competent, and if the few can obtain fraudulent certificates from their State Boards, they can as easily secure fraudulent registration in another State.

There are dentists who have forgotten more about dentistry than some of us ever knew, who, if compelled to go before a board and pass an examination would be rejected. Is not the act of the National Association without Dr. Smith's amendment the greatest good to the greatest number?

Dr. Hodgkin further says: "It is clear that a State license in itself is not evidence that a person is competent to practice dentistry." Meaning, of course, those who were in the State when the board was created.

Are all holders of State certificates after examination competent? Experience answers, No. Why worry about the few incompetents in the rank and file. If a man is not capable, the people will find it out. Then let us have a unity that will not oppress the worthy, to shut out the few unworthy. But we shall not get this unity till the dental law becomes the same throughout the Union.

Dr. John Smith.

TO AVOID ACCIDENTS BY THE USE OF THE ARGAND BURNER.—A suggestion relative to the small argand burner, or alcohol lamp, used in filling teeth; many dentists, as well as myself, have, I suppose, found numerous accidents occur, caused by the invisibility of the gas flame. The idea suggested itself to have a flame visible without blacking the gold (by the carbon being consumed). I have found I can do so by making a spiral platinum wire, about the thickness of an ordinary pin, soldering the two ends to the end of a flat brass ring which slips over and holds on to the tube burner. The wire becoming heated to a white heat, the flame is perfectly visible, and perfect combustion taking place as before.

Quite an interesting experiment is seen by shutting off the gas for a moment, then turning it on again, the wire being hot the gas is ignited. For the experiment platinum sponge is preferable.

Harry Berhard, Paris, France.

At the joint meeting of the Maryland State and the Washington City Dental Societies, Dr. G. H. Claude, a prominent dentist of Annapolis, illustrated by a boxful of models the successes he had made in the correction of irregularities in the mouth, not only as regards pulling, pushing, or turning teeth into place, but also a systematic broadening of the jaw where it did not have the proper curve. This he had accomplished by a succession of little wooden disks, each one of which was to be worn till it no longer fitted tightly, and then to be replaced by the one next larger in size. Dr. Claude's work had been considerable of an experiment, but he deemed it a complete success, and the interest with which his models were handled during the noon recess was proof that others thought so, too.

Dr. Charles A. Meeker, of Newark, New Jersey, at the same meeting, gave a very successful exhibition of bleaching a discolored tooth by the use of the recently discovered agent, pyrozone.

Dr. V. H. Jackson, of New York, lectured on his system of correcting irregularities of teeth. A gentleman of large experience, who was present, tells us he believes it is the simplest and most efficient of any he has ever seen.

I have noticed for the past two years the discussions regarding copper for filling teeth. In the hands of a few it has met with apparent success, while others have considered it wholly unfit for the mouth. In your April ITEMS I see Dr. Darby, of Philadelphia, speaks anything but complimentary of it. For nearly three years I have used it with satisfaction. This may not be a thorough test, but certainly out of at least two hundred fillings of copper I should have heard complaint, or noticed some of the disadvantages.

For all back teeth with large sensitive cavities, copper has been used. For buccal surfaces it surpasses all other filling. My faith has grown so strong in the virtues of copper that several times I have used it directly over exposed nerves, and where the artery had been pricked till it bled, though this is not my usual plan of capping. If silver had been used I would have heard from them in a very short time. As yet there has been no cases reported, and where employed for buccal surfaces there has been no sensitiveness. In temporary teeth it does well. In some I removed all available pulp, and after wiping out with cotton saturated with oil of cloves and creosote, equal parts, I filled with copper.

E. W. Wagoner, Emporia, Kan.

THE EYE.—It certainly would be as great a calamity to a practicing dentist to have his sight badly impaired as to become paralyzed, so we ought to use every endeavor to make it last as long, and be as perfect as possible.

Much has been written on the proper light, surroundings, etc., but a few hints as to the care of the eye may not be amiss.

The symptoms of catarrh should cause us to seek the services of a specialist in that disease.

The eye must at all times be guarded from strain. If often immersed in clear water, and if, while under water, the lids are winked a few times, the effect will be to wash the eye, causing a refreshed feeling, and is said to prolong the sight.

If while operating there is found a tendency to withdraw the eyes further away from the work, "trying to get the focus," an oculist must be visited. He will probably inform you that you are troubled with astigmatism, and much as you dislike the idea, on must go the glasses to be worn at least while operating. I am confident many dentists are working away, straining their eyes, not knowing they are handicapped by this disease of the eye.

C. B. Plattenburg.

THE MAXILLARY SINUS.—More nonsense has been written about diseases of the antrum than on almost any pathological condition of the oral tissues. The most elaborate treatment has been advised, without a comprehension of just what the condition was. The truth is, usual affections of this cavity are readily cured. An ordinary empyema requires little more than that perfect drainage be secured, and this may easily be obtained by a proper opening at the lowest point. But this must be sufficiently large to prevent its closing. After an operation of this kind, little treatment is usually demanded.

But it is essential that the operator should have the ability exactly to diagnose the condition, and if opening is demanded to know how to make it at the right point and in the proper manner. Unless he feels competent for this, it is his imperative duty to refer the patient to some one who makes a specialty of this kind of work. We often criticise medical men because they do not promptly recognize dental lesions, and continue for an indefinite time to treat some simple oral difficulty that a dentist could cure in a moment. But we ourselves too often are criminally culpable for failing to recognize something that is out of our province, and by continuing to dally with some tumor or neoplasm that should have been promptly referred to the surgeon, the patient is put in imminent danger of losing an essential organ, or even life itself.

Practitioner.

CURRENT THOUGHTS.

OPERATIVE TECHNICS.

Thomas E. Weeks, D.D.S., Minneapolis, Minn.

“New times need a new system.”

“To prevent going backward we must work on the line which goes forward.”

In the early history of dentistry the young men who received their training from the best practitioners were, by much practice in the laboratory, of the purely mechanical or technical, taught to be “handy,” but with the increasing demand for a more general scientific knowledge there grew a tendency to platform instruction—an extension of didactic work at the expense of the practical. In many instances this resulted in a cramming of the head which left too little time for training the hand.

There is no escaping the truth of the relations existing between the mind and the hand. Some one has called the hand the moral rudder, the balance wheel of the mind. Certain it is that what the hand is to execute is originated in the mind; then through the eye, the mind directs the hand. Simultaneous training of the mind, the eye, and the hand is the underlying principle of the various systems of manual training, to which the teaching of technics in dental colleges is analagous.

Operative technics is generally understood to apply to instruction obtained by operations on teeth out of the mouth. As this practice exercises the mind and the eyes, and increases the dexterity of the hand, its governing principles are the same as those of manual training.

That the dental student should become “handy” by doing some suitable hand work, is not only desirable but necessary. The best teachers recognize that the child gains a much better understanding by seeing and handling and doing, than by merely hearing and remembering. They recognize also that systematic training of the hands is not antagonistic to mental growth, but assists it.

There are two kinds of knowledge, what we know through our own experience, and what we know through the experience of others. What is told us is another's; it rests on a different basis from that which we have gained by our own experience. Does the knowledge of the existence of the ant, or the bee, or the various winged creatures of the woods make an entomologist or a naturalist? Is a man a machinist because he has learned the parts of the

steam engine, and can define axle, lever, plane, and screw? Should a man be called a dentist because he can name the teeth, bones, muscles and nerves, describe the making of amalgams, or detail the best method of filling a tooth? No, not even if he can rehearse all his teacher has repeated to him. A purely mental acquirement is a theorem, and a theorem is a demonstrable proposition. Whether it may be proved is always a question till the act of doing solves the doubt.

In the progress of knowledge, practice ever precedes theory. That it is necessary for the dental student to possess more knowledge than can be gained from lectures and text-books, of the form, structure, and diseases of the teeth, of the properties of materials, and of the forms and uses of instruments as well as dexterity in handling them, before he be allowed to operate for patients, is now generally acknowledged.

Prof. G. V. Black, recognizing that the practical uses of any science or branch of knowledge are of higher importance than the purely intellectual, sounded a distinct note for advance.

He proposed a course in operative technics, which, without limiting any part of the instruction in operative dentistry as usually given, will broaden and improve that teaching, forms the basis for didactic and clinical instruction. He says: "Students must be taught the nature and physical qualities of the teeth on which they are to operate, of the materials they are to use, and of the instruments by means of which they are to use them. This I would do in a series of object lessons, by having students handle teeth and study their forms and examine enamel and dentine by cutting them with instruments; manipulate the material used for fillings, study and practice the use of instruments, and learn the tests for perfect manipulation." This is the foundation of the courses in operative technics in the several colleges where that plan of teaching is in operation.

A course modeled on these outlines was instituted in the Chicago College of Dental Surgery for the session of 1888-9. The Dental College, Department of Medicine, of the University of Minnesota, adopted a similar course the following year. Others followed, till about one-fourth of the colleges of the United States have systematic courses in operative technics. Besides the outlines already referred to, and the paper by Dr. D. M. Cattell before the World's Columbian Dental Congress, comparatively little has been written; nothing so far as I am aware which would serve as a text or reference book for teachers and students has been published. To meet this demand, so far as may be done in a magazine article, is the present object.

The difficulty of presenting any form which in its entirety could be adopted by all teachers, is appreciated, but an endeavor will be made to present a course which shall embrace the principles which underlie operative procedure. It is generally conceded that a familiarity with the organs to be operated on should take precedence of all else; consequently dental anatomy should be given first place.

Review.

PERICEMENTITIS PRODUCING ABSCESS.

C. N. Johnson, L.D.S., D.D.S.

Probably one of the most painful affections with which the dentist has to deal is that of acute pericementitis immediately preceding alveolar abscess. This is easily accounted for when we consider the anatomical relations of the tissues surrounding the root of a tooth. The pericementum is encased in a bony socket with unyielding walls on either side, and a slight degree of inflammation results in a great pressure. Whatever may cause pericementitis, there sometimes comes a stage when no kind of treatment directed into the pulp chamber and through the canals is in the least effective. It is to the consideration of this phase of the affection that I wish briefly to call attention.

Where the canals have been opened up and a free vent made for the escape of gases, and this has failed to bring relief, it is an indication that the tissues of the peridental membrane have become so far implicated that the inflammatory process will go on independent of further irritation. This has always proved in my hands the most difficult stage of the affection to control, till within the past two or three years. During that time I have followed a practice which, if faithfully carried out, has seldom or never failed to give satisfactory results. The treatment consists in the application of moist heat to the gums surrounding the affected tooth.

The method of procedure is as follows: Water as hot as the tissues will tolerate is taken up in a large bulb syringe having a fine point. A jet of hot water is directed on the gums and into the cavity of the tooth, all cotton or other dressings having previously been removed from the canals. The tooth and surrounding tissues are thus submerged in water as hot as the patient can tolerate. During the refilling of the syringe the water is to be retained in the mouth and then emptied into the spittoon just previous to another application. The water should be kept on a gas stove near at hand and the heat gradually raised as the tissues will admit. It will be found that in the end water extremely hot may be used

if the heat be gradually increased, and one of the essentials to success is to employ an exceedingly high degree of heat. If the tongue and other tissues of the mouth remote from the region of the tooth are too much affected by the water, a saliva ejector may be used to carry off the water after it has flown over the gum in the immediate vicinity of the inflammation. The gum in this region will often tolerate a much higher temperature than the normal tissues. In fact, an application so hot as to be extremely painful to normal tissue often proves instantly soothing to the affected parts. The process should be kept up till perfect relief has been obtained, and the length of time necessary for this varies. In some instances where the pain is most distressing prior to the application, the relief will be very sudden; in others it will require persistent treatment for perhaps thirty or even forty minutes before a substantial effect is produced. I have never yet encountered a case where persistent effort failed to finally bring a cessation of pain. The permanency of the relief is governed largely by conditions.

If the general tone of the system is bad; if there is universal congestion strongly marked by the symptoms of what is commonly called "a heavy cold;" if the circulatory and absorbent systems are badly out of condition, or if the excretory organs fail to perform their function, then the relief is necessarily temporary, and we must resort to general treatment to gain permanent relief.

A patient in this condition should be given a rapidly acting cathartic, the citrate of magnesia, in large doses, having proved in my experience the most pleasant and satisfactory. Again, if the inflammation has gone on to a point where suppuration has begun in the apical space, we cannot hope for complete relief till the abscess has pointed and discharged, but even in these cases we may be reasonably sure of preventing extensive infiltration and puffing of the superficial tissues, and also of mitigating the suffering.

As to the circumstances which may render the relief temporary, I have noted that if the patient left the office immediately after the hot water application, and went into the open air on a cold day without carefully protecting the whole side of the face from the air, the pain would ordinarily recur. In other words, exposure would bring back the trouble. But not the least among the gratifying results that have followed this line of practice in my hands is the large per cent of cases where a permanent relief has been gained.

A criticism might be made by some as to the advisability of leaving the cavity and canals open during the treatment. The argument might be used that there was danger of additional infection through the medium of the open canals, but I never have seen a case where

I could trace any evil effects to this cause. My reasons for leaving the canals open are that I wish the hot water to reach the apical space if possible, and that there may be a likelihood of the water, in flooding the cavity and canals, floating to the surface or dislodging small particles of débris that may have been packed in the canals near the apical foramen, and which the broach has failed to bring away. I never leave the cavity open when I dismiss the patient. If the tooth is not too sensitive to pressure I usually dry the canals as thoroughly as possible after the pain is relieved, and then flood them with an antiseptic. A small pledget of cotton, saturated with the antiseptic, is then placed loosely in the chamber, and the cavity sealed with Gilbert's temporary stopping.

The canals are never packed with cotton at this sitting, and if the tooth is much raised in its socket, and extremely sensitive to pressure, I do not attempt to seal with gutta-percha. It should be worked on with instruments as little as possible. Mechanical irritation invariably results in increased sensitiveness.

Where the tooth is loose and sore from swelling of the pericementum, I simply dry the canals, flood them with an antiseptic, and place some cotton in the cavity, merely to keep food and débris from packing into the tooth. I should much prefer dismissing the patient in this condition and taking chances of infection through the imperfectly sealed cavity to attempting a thorough sealing at this sitting. These are mostly emergency sittings, and our principal office is to relieve the present distress. Usually in twenty-four hours the tooth will be in a condition to work on, and it may then be treated and sealed.

The simplicity of the hot water treatment would seem to argue that the case could as well be treated by the patient in his own home as by the dentist in his office, but my experience has taught me that the results are seldom satisfactory. Somehow patients do not succeed, however careful the instructions. They do not use the water hot enough, or they do not apply it properly, or do not keep up the application a sufficient length of time.

In fact, the element of time in this treatment proves one of the greatest obstacles to its practical application. As has been stated these are emergency cases, and are likely to call for attention at any hour through the day without previous appointment. In a full practice where almost every moment of every hour is systematically assigned in advance for the regular routine work of the office, it is exceedingly trying to the operator to be called away from his work to devote any considerable time to an unexpected patient. In those cases where I have fallen short of producing the most satisfactory results it has been traceable to this dilemma.

And yet a dentist's first duty as a practitioner and as an individual is to relieve suffering whenever or however it appears.

In searching for a theory to account for the results obtained by the application of hot water I was led to consult Dr. W. T. Belfield. I then learned for the first time that he had long been a strong advocate of hot applications for the relief of pain in other tissues. His theory was that heat, especially moist heat, was an anesthetic. This would account for the relief of pain temporarily, but if this were the only action of hot water the pain would soon recur. To account for the permanent results which I claimed to have undoubtedly secured in many cases, he said that hot water applied in the manner I had indicated would prove a very rapid and effectual absorbent. It is to this latter quality that I attribute the lasting results, and this argues especially for a somewhat protracted application.

Dr. Belfield also stated that in the use of hot water, a very minute stream should be used to play on the tissues. A jet, such as would come from a hypodermic needle he had found more effective than a larger stream.

In conclusion, I may add that in some cases where the pain has been excruciating, I have added to the hot water a few drops of carbolic acid, making about a five per cent solution. The anesthetic effect of carbolic acid is thus added to that of the hot water, and the relief is usually exceedingly prompt and gratifying.

DISCUSSION.

Dr. T. W. Brophy: Heat and moisture employed as a therapeutical agent for the treatment of acute inflammation was long ago recognized and highly regarded.

The merits of hot water, when properly applied to a part soon after stasis has occurred, cannot be too highly extolled. I have never employed it in the manner described by Dr. Johnson, but the advantage to be derived by applications such as he suggests commend themselves to us, because the object desired in applying heat and moisture is more speedily accomplished than by the usual methods.

Hot water applied to a part in the first stage of inflammation has the effect of dilating the vessels surrounding the inflamed territory, thereby attracting the blood from the engorged vessels at the seat of inflammation, and thus promoting the flow of blood and re-establishing the normal circulation, terminating the inflammation by resolution.

Dr. E. A. Royce: Eighteen years ago I was told to use this prescription, and for an hour I sat with a cup of hot water in my

hand and my mouth full. It certainly gave me relief, but it was a tiresome operation, and I do not wonder that our patients will not persevere in its use till they gain the full benefit of the application.

A little experience in my family may serve to show the efficacy of this simple remedy in cases of inflammation. Some time ago a lady turned her foot while on a dancing floor. Severe pain followed, and she was removed to her home and the foot placed in hot water. For three hours the temperature of the water was kept as high as could be endured, and at the end of that time the patient had little or no pain and slept well. In the morning the small bones of the foot that had been misplaced were put in their proper position with but little pain and no swelling. It was a simple remedy, yet it saved the patient days of suffering.

My attempts to use hot water in my practice have not been satisfactory because of the primitive method of application, but with the methods given by Dr. Johnson I feel sure we have a wonderful remedy in our hands.

Dr. A. W. Harlan: For acute pericementitis I have used a hot pack on the neck and side of the face with three or four thicknesses of heavy toweling wrung out of hot water. At the same time I give one-tenth grain calcium sulfid, one-tenth grain every ten minutes for the first hour, every fifteen for the second hour, and one every half hour for two or three hours longer. To arrest pain at night use

R.—Acetanilid..... gr. viii.
 Syr. simple..... ʒij.
 Spir. frumenti..... ʒij.

M.—Sig. Take one-half the above at 5 or 6 P. M., and the remainder at 10 P. M. *Review.*

ON THE ENGLISH DENTISTS.

Dr. W. C. Barrett.

No one regrets more than does the editor of this journal the misunderstandings that have arisen between the dentists of Great Britain and those of America. No one in this country has in the past, according to his ability and opportunities, either felt or exhibited a more friendly and fraternal regard toward our English-speaking brethren. We know that the same sentiment has been universal in this country, and therefore the outrage to our feelings over the action at Birmingham was the greater, because we so well know that it was unprovoked and gratuitous. English ways are

not our ways, nor are our ways theirs, but we have always been drawn toward our transatlantic cousins by many close bonds. To receive such treatment at the hands of strangers would be little, but coming as it did from our own brethren, it was a great deal. We were, and yet are, very indignant toward those whom we thought chiefly responsible for the wanton insult.

It is urged in extenuation that it was believed that the American Congress was inimical to the International Medical Congress, because, as a prominent English dentist said: "One of the prime movers in the Dental Congress had openly, in his journal and elsewhere, decried the connection of the dental profession with the Medical Congress, and strongly advocated independent dental congresses." Admitting this, the dentist referred to was but one, while Americans generally had supported the Medical Congresses quite as loyally as our English brethren, and had attended them in greater numbers. We are assured that these utterances had great weight in bringing about the action taken at Birmingham. Are we to understand, then, that the mere words of one man in America had greater weight with our English brethren than the deliberate, united action of the whole dental profession? Is this the way in which our English brethren would themselves be judged? Under such ruling we might justly charge the whole profession of Great Britain with the offensive words used by Mr. Smith Turner, and the more so as they were sanctioned by the vote of the British Dental Association.

We are assured by men of the highest professional standing in England, that the injudicious blowing of trumpets and the hip-hip-hurrahing over the Congress in advance, did much to prejudice it in the minds of Englishmen. Undoubtedly this was so, and we protested against it in no uncertain tones. But this, too, was the work of only a very few men whose zeal greatly outran their discretion, and it was no justification for the discourteous way in which the invitation to attend the Congress was received. The amount of it is, there is no possible excuse for the Birmingham action, save that it was brought about by an unfriendly and unfair appeal to British prejudices, by those who succeeded in mystifying the minds of the members and misrepresenting the true state of affairs. We do not mean to intimate that this falsification was wilful, but whether done in ignorance or from malice it was alike effectual.

Our brethren of England have had unpleasant experiences with certain Americans who are outside all recognized lines at home, and who have swooped down on London and other cities and made themselves obnoxious by their vulgarity and unprofessional ways.

For this the dentists of America are not to be blamed, any more than are respectable Englishmen responsible for the ridiculous English cads who have made America their refuge. Let it not be forgotten that if some professional renegades have sought English shores, we have representatives whom even the British Dental Association has been glad to honor, while on the continent men like Miller, Jenkins and Evans would reflect credit on any nationality.

Practitioner.

PYORRHEA.

Dr. Truman.

(Continued from page 291.)

So much has been written on the subject of pyorrhea without any remarkable results following, that I should prefer not to enter the list of disputants, and therefore comply with the request of Dr. Butler with some reluctance, for, in my judgment, it would be better to wait for exact observations than risk possible crude opinions on a subject of so much importance.

The paper is, however, of such a radical nature that it invites discussion, and we are forced to meet it by, at least, past and present experience, or admit that the author's conclusions are correct.

The premise laid down by Professor Peirce is, that we have in the past been working under a mistake, and that pyorrhea, instead of occurring at a single pathological condition, is in fact a dual presentation, and must be considered from separate standpoints; for he says, "From a careful study of the abnormal pericemental—or rather the alveolo-cemental—membrane, it appears to me we must recognize two closely allied, but yet very different, pathological states; different, as I shall attempt to demonstrate, in their etiology, in their clinical history, in their symptomatology, and in their susceptibility to treatment. . . . In one form of pericementitis the origin of the calcic salt is the saliva, and in the other form, the blood. The former I shall designate as *ptyalogenic calcic pericementitis*, expressive of the idea that in its origin it is local, peripheral and salivary. The latter I shall designate as *hamatogenic calcic pericementitis*, expressive of the idea that in its origin it is constitutional, central, and associated with some modification of the normal composite of the blood-plasma."

As this view is so important, I examine it, for not only does it constitute the basis of his argument, but is a wide departure from accepted conditions surrounding this disease.

It is a well-known pathological fact that calcic deposits will not be made, in the majority of cases, in tissues unless there be pre-existing changes present indicating impaired function or death of the part. This being recognized as true, what must be the condition of the apices of the roots of teeth to admit the deposit on their surfaces? The pericementum must have been in a state of inflammation through an antecedent irritation. This may have been produced by any of the usual disturbances, such as excessive pressure or loss of pulp.

It is, therefore, not an impossibility for deposits to occur at these points after destruction of the pericementum; indeed, it must be regarded as a very probable result in gouty subjects.

Before accepting this statement, admitting for the sake of argument that it occurs, it may be well to ask, What are the phenomena attending this disease, as generally understood? There is first an irritation of the pericementum, followed by its gradual destruction, and synchronously that of the periosteum of the alveolus. The gum tissue is not primarily involved. The inflammation engendered by the progress of the disease produces pus. Microscopic investigations have proved the existence of pathogenic bacteria. Deposits may or may not be present; generally, in my experience, they are absent. When present they are, in my judgment, of secondary importance and cannot be considered as vital to the progress of the disease. These constitute the main presentations at the gingivæ. If this disease be present at the apex of the same root, the manifestations and results must be similar in all respects; pus must be the product of inflammation, and this will find an outlet. The final result is a fistula. Consequently, apical inflammation means eventually destruction of the adjoining tissue, or a condition known as abscess. If this be true, then the pathology of this disease is well understood and needs no new nomenclature to explain it.

It seems to me to be impossible, and contrary to known pathological laws, that a deposit can be tolerated on a weakened membrane, or one which will subsequently become devitalized by its presence, and the pulp still continue in full activity.

When the subject is viewed in the light of experience, it has not been my observation that any such condition exists at the apical surfaces of teeth except as a result of abscess, and then only in rare instances. Whether in these the calcic deposition will give in all cases the uric acid reaction remains to be proved, and would require an analysis in every case to demonstrate. Admitting that it could be demonstrated in every case, it by no means settles the question of the origin of pyorrhea alveolaris, though we

may be forced to admit it as one of the factors in its production.

The reasoning of Professor Peirce in regard to the channel by which uric acid arrives at the pericementum, and through the cement and the dentine, is open to criticism. He says, "As the current of the lymph-stream is directed for the most part toward the cement, through its borders or periphery into the lacuna and canaliculi, and finally in the reserve direction, it is not difficult to see why the deposit should take place on the surface of the cement, as well as in the meshes of the alveolo-cemental membrane. The constant deposition and pressure of these insoluble salts will act as irritants, engendering the well-known inflammatory states—congestion, exudation, impaired nutrition, tissue disorganization, and the formation of pus. These changes, taking place here as elsewhere, in the immediate vicinity of the irritation,—that is, on the cemental aspect of the membrane,—lead to its detachment from the cement and the development of pus-pocket."

When this quotation is analyzed, it represents the lymph-stream holding the urates in solution as passing into the lacune and canaliculi of the cement without apparently affecting the tissues in transit. On their return, in reverse order, the stream gives up its calcific material, and the precipitation and crystallization result in irritation. As I have endeavored to show, there must be some loss of power or impairment of function for this deposition to take place; it is reasonable to infer that if the tissues retain full vitality, there would be no formation of calcic deposits. But Professor Peirce does not seem to regard this as an important pre-existing condition, though he does admit that there "might coexist some impairment of nutrition . . . or some faulty innervation." If this be not important, then it is difficult to understand why the deposit is not made before the transit through the pericementum. Why must the lymph-stream take such a circuitous route before it can effect the lesions prescribed? If the urates be the irritants asserted, and impairment of nutrition is not absolutely essential to their deposition, no reason remains why the tooth should not go down to destruction as a whole, and not by degrees, as I believe to be universally the case.

In the discussion of the paper, and practically part of it, Professor Peirce makes the statement that "this disease (pyorrhea) is not known to be developed, except in very rare cases, till after thirty or thirty-five years of age," and he reasons from this that, as the "uric acid diathesis is not established till after thirty-five or forty years . . . we would not be likely to find any such condition in our young patients for whom we correct irregularities."

This, by direct implication, means that there is a marked synchronism in these two pathological states. Unfortunately for this reasoning, pyorrhea is not confined to thirty years of age, but is found very frequently in persons before the twentieth year; in fact, it is a question whether the age limit can be applied; though it is true that after thirty-five the destruction is greater and the disease more deeply pronounced.

"In one form of pericementitis (pyorrhea) the origin of the calcic salt is the saliva, and in the other the blood," is the rather positive assertion of Professor Peirce. At this stage of the inquiry it might be well, before ascribing a similar origin to both forms and both arising from calcic deposits, to establish the fact, if fact it be, that such deposits originate the lesion in any considerable number of cases. If by naming that originating from the saliva *ptyalogenic calcic pericementitis*, and that from the blood *hematogenic calcic pericementitis*, he means to assert that pyorrhea is invariably produced by calcic deposition, then equally as good observers must part company with him in his conclusions; for calcic accretions from the saliva, it is very safe to affirm, are not the cause of the disease. It is only necessary to refer, by way of illustration, to those teeth most affected with what he terms *ptyalogenic deposits*, and mark the result. Examine the lingual surfaces of the lower incisors and canines, and though ever so much coated with hard, black tartar, pyorrhea does not result, and the same is true of the upper molars; indeed, as I understand the disease, it would be impossible for it to take place as long as salivary calculi were present.* If this be true of this character of calcic depositions, and it seems to me it cannot be controverted, then it remains true that the so-called *hematogenic calculus* can have no direct effect of a destructive character not possessed by the salivary calculus. Both alike destroy the soft tissues on which they impinge, but neither, in my opinion, have any direct action in producing the disease in question.

The position held by Professor Peirce is that local treatment is practically unavailing, as it should be if his premises be correct; but inasmuch as pyorrhea *alveolaris* has been and will continue to be overcome by local treatment, it follows that the uric acid hypothesis does not cover all cases.

When it is understood that in dealing with this disease our diagnosis cannot be limited to a circumscribed area, but must have a wide consideration of related systematic conditions, I am forced to agree with the conclusions of the essayist, that lesions of the

*I do not wish to be understood by this statement that pyorrhea does not occur on teeth on which salivary calculus is deposited, but that it does not originate beneath the accretion.

gingive may be indirectly aggravated by constitutional disturbances. It, however, remains to be proved that gouty subjects are, above all others, liable to this disease, or that to this disease can be accredited the origin of these peculiar pericemental inflammations. All disturbances of the normal equilibrium of the system will produce derangements of various organs, and a local irritation may be the progenitor of a series of new foci of inflammation.

A strict parity of reasoning would force the conclusion that if the hypothesis of Professor Peirce be the correct one, then we can equally ascribe the origin of pyorrhea to other disturbing elements. In scurvy and syphilis the pericementum if destructively affected, and under proper constitutional treatment will disappear, precisely as it is stated pyorrhea will disappear under proper treatment for gout. Some medicines act in the same way, and mercurial salivation is so well known as to need only passing reference.

The reasoning that would apply the origin to uric acid deposits holds good equally for scorbutus, syphilis, and mercurial salivation.

It must be recognized that pathological conditions affecting the system will have a marked impression on the tissues investing the teeth, and in addition to this, create changes in the secretions of the oral cavity, from the normal neutral to an increased acidity, thus locally intensifying the disease.

True pyorrhea cannot, in my opinion, exist anywhere except on the pericemental membrane investing the cervical portion of the tooth. It has its origin, if I understand it, in irritation of that membrane, and may then progress, the factor of vitality having much to do with the rapidity of the destruction. The immediate and continuing cause of the inflammation is micro-organisms. As a rule deposits are not found in the pockets. Professor Peirce explains this by supposing that pus washes these out. If removed immediately, how can the parts be affected by their temporary presence?

Whenever differences arise in regard to the character and treatment of pyorrhea, the charge is almost universally made that those in opposition to any special ideas are incapable of diagnosing the disease. It would be a sad commentary on the intelligence of the dental profession if this were true, but it is not true, for the very simplicity of the disease precludes such an inference. I am, therefore, forced to the conclusion that the marked differences of opinion cannot be attributed to a lack of knowledge of the etiology of this complaint, but rather to improper conceptions of treatment demanded.

The object of this review is not to give my own methods to meet these conditions, for this would be unnecessary, having been published elsewhere; but as teeth have been permanently cured,

and that without any resort to systemic treatment for gout or other constitutional diseases, it seems reasonable to conclude that the origin of pyorrhea cannot universally be looked for in derangements of the general system.

In conclusion, I briefly give the following summary of my views:

1st. Pyorrhea does not occur at the apices of roots as a distinct pathological condition.

2d. Deposits may be found there, but always subsequent to the death of the pulp and pericemental membrane.

3d. That uric acid may affect the membrane subsequent to the injury of that tissue, but is not directly the producing cause of lesions in that organ.

4th. The action of syphilis, scurvy, some medicines and general disturbances have a similar effect to invite this pathological state.

5th. Pyorrhea is a local disease, aggravated by systemic conditions, and to be treated on a clear comprehension of its local and constitutional complications.

Dr. R. R. Andrews.

We are to be congratulated that at last we have been thoroughly aroused to the importance of knowing more about this most perplexing disease, "pyorrhea." Indeed, Professor Peirce's article is claiming the attention of the whole profession, and this must necessarily give us results which will lead up to a more successful treatment. I do not know how many cases of true serumal tartar from different teeth, taken from the apices of the roots, have been carefully analyzed. If the number should be large and all show traces of uric acid and its salts, it must necessarily go a great way toward settling this theory. The tartar which we find on the palatal portion of the upper incisors, just under the gum and on the palatal roots of the molars in the mouths of comparatively young people, I have always considered to be one form of true serumal tartar. Some of our oldest and best operators make the statement that patients of whom they have the charge from youth up never contract this disease, though their parents may have lost their teeth by it. Proper care at the proper time has prevented its occurrence. These men are loath to believe that this tartar is a deposit from the blood,—being deposited before pockets are formed. Gouty and rheumatic people among my own patients have not, as a rule, been more troubled with this disease than others. I have not given the uric acid theory—advanced before Professor Peirce came on the field—much consideration, but the analysis showing the actual presence of uric acid in this deep-seated tartar, demands serious consideration and careful investigation.

I have held there could be no deposit, not even of the nodular tartar, without an inlet from the gum to its location. This is one of the important things that we must prove. We must look for its solution at dissecting tables and at autopsies. We must interest the students of the dissecting-room, both dental and medical, and before a great while, we shall have facts that will give us the exact truth.

Another question arises. Shall it be possible by any system of medication to dissolve this deposit from the roots of teeth, in its earlier stages, before the pockets are formed, while yet there is irritation? I do not believe this to be possible. I have been led to believe, from my own experience, that this trouble exists largely in the mouths of people accustomed to luxury—good livers, people above middle age, who overeat and underwork. If intelligent medication, with the end in view of eliminating uric acid from the system, and with the proper diet for preventing its formation, shall be followed by a cessation of the symptoms and the trouble itself, it must necessarily prove the accuracy of Professor Peirce's hypothesis. Enough has been proved to make it the duty of every conscientious operator to carefully carry out this scheme of medication. All the care that has been given to the removal of tartar from the roots heretofore, together with the thorough use of antiseptics, must be continued with the additional medication suggested. This theory of Professor Peirce appeals to every one of us; it sounds rational; it seems the most plausible solution of this difficult problem that has been offered.

Professor Peirce calls our attention to one important fact, and that is, that disturbed functional activity causes the deposition of the salts of uric acid in the tissue of the pericementum, and any undue irritation, even the simple wedging of teeth, may start up this trouble. If this danger signal shall stop many of the younger members of our profession, and some of the older ones too, from the excessive use of the wedge, it will prove a great blessing to suffering humanity, and perhaps save their teeth from "hematogenic calcic pericementitis."

Dr. Maxwell, on page 237 of April ITEMS, says "Use iodine then ammonia to remove stains of nitrate of silver." I have used nitrate of silver in my practice for twenty years, and find it very valuable, and would say to those troubled with its stains to try cyanide of potassium. Use it the same as soap, and see the stains disappear as if by magic.

A. J. Thompson, St. Paul, Minn.

BRIDGE-WORK.

Dr. C. M. Richmond, New York.

In making bridge-work, I may say that I have in my practice abandoned complications which appear to me to be fatal to this operation as a practical operation. I have reduced the practice to the simplest possible method, demonstrating to men who have visited my office ideas of bridge-work which to them have been a revelation. I discovered accidentally that I could make a band and drive it to what we term the largest or bulging portion of the tooth, and not beyond it, where it would make an imperfect condition of things by driving the band over a surface where it could not fit, with the margin of the band under the gum, where we could not get at it. Those bands have been cemented on for eight years, over two teeth supporting an upper portable bridge. That case convinced me that it was unnecessary to carry the band to the neck of the tooth. That relieved me of the necessity of cutting down the tooth. A crown can be fitted over a tooth, leaving the gum-line entirely free, so that the brush will keep it clean without the slightest difficulty. In regard to fitting the abutments, this piece of mechanism is very commendable. In fastening portable bridges, I make gold crowns which are cemented on as abutments, and then I make bands which are made of clasp metal, always using whatever methods are best for the case, for keeping the band from slipping farther than the required point. I find by making those bands of clasp metal that they never bend or stretch, because they fit tightly.

I have worn in my own mouth, for eight years, bridge-work with three attachment points only. That case has been removed every day, cleansed, and replaced, and it goes on exactly as tight to-day as it did when I commenced to wear it. Those band-attachments are made of clasp metal, and the only point of attachment, the end of the root, is covered with a gold crown, and in that gold crown is a tapering, square tube, which fits accurately when it is home. It is quite loose till it arrives at the point where it was made to fit; the moment it reaches that point it is firm. It starts very hard, but when it is started from its position it very readily comes off. Two roots and two bands of that description will hold an entire upper set rigid. The patient can take it off every day and cleanse it without the danger of its getting loose. The idea of having these fastened to the teeth, one at a time, seems to me practically perfect. The dentist can fasten one tooth with cement, and get it secure every time; but when he has to fasten on

five or six crowns, that is a different thing. I have never seen an entire case where every one of the bands was perfectly cemented. I have found one, two, three, or four perfect ones, but one or two crowns were always imperfectly cemented. Therefore, portable bridge-work can be fastened to one tooth and perfectly cemented, but when attached to four or five teeth it cannot be done.

Cosmos.

GETTING ACQUAINTED.

One never knows a man until he has seen him in his private retreat, in his den, in that portion of his professional domicile that is not kept for visitors, and where he spends the time that is peculiarly his own. When one calls on a professional friend, and is seated in the reception room devoted to strangers, he is making little progress in forming an acquaintance. We have made such calls in foreign lands, where we were received with all the courtesy imaginable, and when we retired we felt that we knew the man no better than before. There are friends whom we have met annually for many years at our professional meetings, but whose acquaintance we have really never made.

But when we have visited some dentist who took us into his operating room, or, better still, into his laboratory, and we have an opportunity to see with what he surrounds himself when he is beyond the observation of his ordinary acquaintances, then we have felt that we knew the man as he really was. It brings the visitor very near, but it is a dangerous experiment to try. A single glance will enable the keen observer to read his man completely. It is not alone the evidence of dirt and general untidiness which will proclaim him a slovenly operator, but the condition of his instruments, the little evidences of ingenuity in making the most of his surroundings, the manifestations of care for the comfort of his patients, the appliances for facilitating work and the means just at hand for perfecting operations, the general air of serviceability and "handiness," all tell the tale of the professional rating of their possessor. The books and journals that are just at his elbow, the papers and evidences of thought, each proclaims the tastes and habits of its owner.

It does not matter that the furniture is plain, and the carpet a cheap one, but the state of his laboratory will a tale unfold that cannot be denied. Even the condition of his lathe will indicate whether he is a careful and competent mechanic, or a mere botch. It will be useless for the dentist to attempt to cover up the indications if his visitor be an observing man. The thing will out, for

every file and scraper will have a voice when one visits an operating room or a laboratory that indicates that its owner knows what a good tool is and when it is in order, and that he has sufficient of ingenuity to get the greatest amount of convenience out of his surroundings. When one has looked over the desk and observed that its owner keeps the run of the current literature, that he has the principal text-books and that they give evidence of study, what a feeling of respect and admiration comes over him, and how immeasurably that man has grown in his esteem, and how well he feels that he knows him. Such visits give a pleasure that no formal reception, no elaborate hospitality could convey, for one feels that he has been admitted to the intimate companionship, the inner life, the secret temple of a congenial spirit.

Practitioner.

ALTRUISM.

Prof. A. H. Thompson, Topeka, Kans.

The highest aim of life is a fraternal service of humanity, altruism in its best sense. Not an unthinking charity, the charity that pauperizes and that is the nursery of crime, but the doing of things in the spirit of helpfulness, with the realization of our duty to our neighbor, and that we are "our brother's keeper." This is a lesson that all entering on the duties of life must learn, in view of the new future that is before us, the throes of whose birth society is now passing through. It is a lesson that we must learn, either voluntarily by recognizing it in advance and living up to and preparing for it, or involuntarily experienced by having it forced unwillingly on us.

It is not sufficient that men consider only their own selfish interests; that because you have a taste of your brother's blood, you must have his life. The day of selfishness is waning, and in the new future, men will be more and more obliged, by the sentiment of justice and fraternity that is sweeping over the world, to more and more regard the golden rule. That future may be yours, and you may be of it, if you elect to labor more for the good of humanity than for your own selfish aggrandisement. You must fall in line with the spirit of altruism that is abroad, or you will play the part of Charles Lamb's antiquated friend who never could "keep abreast of his age, but was nevertheless dragged along in the procession." You must note well the decline of materialism and make for the things that endure and lead to a higher life. It was Professor Huxley's "Profession of Faith" that "a man should determine

to devote himself to the service of humanity, with intellectual and moral self-culture," with an educated head, a loving heart, a helping hand.

It is not because you are entering on the dental profession that I say these things to you, but because you are entering on active life, and I would that your success should be real, and that your souls should be saved from the leprosy of selfishness. Take an altruistic view of your work, and realize you are not placed in your little notch in the universe to serve your own petty self, but to perform your part in the service of that humanity of which you are an inseparable and interdependent part. There is a destiny even in human affairs; for where we are and what we are is as much a part of God's purposes as the place of our system in the universe.

But there are some elements entering into this altruism that I commend as your self-evident duty, that we must notice briefly. The first of these is optimism. Above all things, avoid that pessimism that stalks like a skeleton through the business and social life of our times; that sees and predicts nothing but evil and misfortune in the future; a spirit that lives without hope and acts without conscience, and that counsels evil and selfishness only because humanity is selfish and greedy as it has been since its emergency from savagery. Avoid pessimism and pessimists and do not allow pessimistic thoughts to lodge in your mind, but cultivate cheerfulness and look with hopefulness on the future. In these days of despondency, I would have you flee from the despair of life that pervades the air like a noisome vapor. You should be instilled with the spirit of optimism, and become the missionary of its gospel. Be of good courage and on cheerful terms with the world. Face misfortune but do not complain or despair. "Kings may fall but only fools repine." The reactions against the steady progress of the good and the true are but temporary. Every revolution brings us nearer the ideal condition. The movement is always toward the light, though empires may fall and nations be engulfed. Therefore let every heart-beat keep time with the music of the march that is the inspiration of our age. The world is really growing better in spite of pessimists and selfishness and cruelty. The towers of selfishness that have withstood the assaults of humanity through the ages are at last tottering to their fall. So I would adjure you, be of good cheer, and look with hope on the future, for it will be filled with good things for you if you are of it. Adorn your banners with the gay colors and flowers of optimism, and not with the sable shroud of the premature mourning of pessimism. Therefore "mix thy blood with sunshine" and be of those who, as Tennyson said of Lord Houghton, "He

warmed his hands at the fire of life " and spread a glow about him ; of whom even the taciturn Carlyle admitted that he had the " sunny humanities."

Our second element of a perfect altruism is culture. Without proper training and education, we can not attain sufficient strength and skill to perform well our part in the service of humanity. The spirit of altruism is well, but the ability is also essential. Therefore, culture is of prime importance, not only for service, for performing, but for the comfort and consolation of the mind. The old Egyptians had for an inscription over the portals of a library, " For the healing of the soul." Culture is the durable thing ; therefore seek culture. All else in the world takes to itself wings, but the things of the mind and heart last. It will do you good and make you strong, in proportion to the effort put forth to acquire it. It is study that vitalizes the mind and makes strong the whole man. It not only stores up knowledge, but strengthens while it accumulates. The professional knowledge which you have acquired here is so much working capital ; but its value to you in practice depends on the additions that you make to it as scientific progress demands, and on the exercise of the mind in that acquisition, and in its practical application. This exercise must be continuous and unremitting, like the athlete who keeps his muscles up to a high state of efficiency by constant and severe effort. Not only that, but you must extend the range of your acquisitions to other fields than the merely professional, and make them your own, that you may become self-endowed with the wisdom of the ages, and thereby augment your efficiency. The seeker after the best culture is known by the books he reads and the literary company he keeps. He is the pupil of the great and good of all ages, and the companion of kings. He has royal comrades. He hearkens to the low voices of the past. He learns of the holy things that have come down the centuries. He listens reverently and imbibes freely, and becomes strengthened within and armored without. True culture brings romance, poetry, religion and all things worth having in our humdrum lives ; it adds to the resources of life ; it enlarges our vision and broadens our sympathies. As the charming William Winter has said : " Romance, beauty and gentleness are forever vital ; their forces are within our souls, ready and eager to find their way into our strength, action and circumstances, and to brighten for every one of us the face of every day."

The third element of a perfect altruism—the last that we will notice—is courage, and courage of the kind that implies heroism. Courage not only to meet misfortune bravely and fail not, but

courage in the unflinching doing of the right because *it is right*. It is that steadfastness to ideals which requires heroism in common life. It is that path that "through slow and painful effort, through failure and disappointment, the hero walks, often with faltering heart and trembling hands," and fails and begins again. That is the spirit of heroism. For, as has been said: "Again and again he is thrown back bruised and fainting, and cries, 'Who can endure to the end?' Hard and toilsome though it be, yet he must labor; steep and stony the path, yet he must climb it; for he must sow with painstaking zeal and patient abiding, and water often with tears. But by and by he shall know the meaning of all hardship, the slow growth and the bitter suffering, when he shall see the temple he has built shine out with the spirit of truth which he waited for with inexpressible longing."

We can only aim at an ideal; we shall fall far short of a perfect standard in our best realizations, yet the image of that ideal in the soul's eye must be forever clearly defined and well understood. Though you often fail, you must still uphold and sacredly preserve the ideal of life with courage and self-sacrifice for the good of others, for this is the only inspiration of true heroism. You must "scorn delights and live laborious days," and be of the heroic stuff that courts danger, that challenges difficulty, that fights and overcomes, that endures and stands fast to the end. Be courageous, steadfast and self-sacrificing, that it may be said:

"These are they who with hearts o'erflowing,
Hearts burning with love for all mankind,
These are the Buddhas of the world, who,
Like Siddhartha in the days of old,
Go forth to self-renouncement."

The chief motive of your work in the world should be a single desire to serve your fellow-man in a spirit of fraternal helpfulness. Bury this ideal altruism in your heart of hearts, mounted on the tripod of guiding principles—optimism, culture, courage. Your mission in the world is to mitigate human suffering, and in the discharge of that duty I trust it may be said of each as has been so beautifully said of the late George W. Childs:

"He stood beside his fellow-man and asked,
'What needest thou?' Then gave with freest hand;
And not of gold alone, but of that greater part,
Of sympathy and love unspeakable.
He held all things in trust for God; each day
Was filled with kindness that lives and moves
And gathers majesty."

Then shall you so live that men shall call you blessed, and all

the golden years shall pour on your heads the glowing harvests of benedictions that follow in the path of deeds well done.

The future is yours ; the prizes of life—love, health, knowledge, competency—may be yours for the earning. Deserve success and you shall have it.

Western.

AN IMPORTANT DECISION—THE LAW REGULATING DENTISTRY IN TENNESSEE TESTED.

Some time ago the State Board of Dental Examiners refused to register holders of diplomas of the Knoxville Dental College, that institution not having complied with the board's advanced standard of requirements for graduation. Suit was brought by the college in the name of M. B. Williams, one of its graduates, for a mandamus against the State Board to compel it to recognize his diploma. The case was tried before Judge Moon, at Chattanooga in February, who decided, according to the *Chattanooga Times* of March 3d, that "the powers of the State Board of Dental Examiners are at least quasi judicial, and that the courts are powerless by writ of mandamus to force any board of inferior jurisdiction, having judicial powers, to exercise those powers in any particular or designated way or manner ; but if the power has once been exercised by said board, and its judicial determination made known, then if any other act by the board is to be performed—such as the mere issuance of a certificate—after the determination of the judicial question, such act is not judicial in its character, but purely ministerial, and the power of the court to force by writ of mandamus the performance of a ministerial act of this character cannot be questioned."

Thus it will be seen that the right of the board under our law to determine the reputability of a dental institution of learning is fully sustained, and its decision must stand unless overruled by the Supreme Court, to which tribunal an appeal was taken.

Editorial, in Headlight.

The following are the newly-elected officers of the Vermont Dental Society : President, Dr. W. H. Wright, of Brandon ; First Vice-President, Dr. E. O. Blanchard, West Randolph ; Second Vice-President, Dr. F. P. Mather, Chester ; Secretary, Dr. T. Mound, Rutland ; Treasurer, Dr. W. H. Munsell, Wells River ; Executive Committee, Dr. C. W. Staples, Lyndonville ; Dr. G. A. Wheeler, White River Junction ; Dr. J. A. Robinson, Morrisville ; State Prosecutor, Dr. G. W. Hoffman, White River Junction.

COMBINATION OF COHESIVE AND NON-COHESIVE
GOLD IN FILLING.

C. N. Johnson, L.D.S., D.D.S., Chicago, Ill.

In the use of the terms cohesive and non-cohesive gold, many writers seem to assume that there is no gradation in character between a gold which cannot be made to weld with any amount of pressure—non-cohesive, and one which welds on the very slightest provocation to a degree which renders it harsh and unyielding in its working qualities. To them the term cohesive gold evidently signifies a substance of a sticky, unmanageable nature, a pellet of which when accidentally dropped in a wrong position in the process of filling, is irretrievably fastened to this false situation, and cannot be shifted or worked into a more desirable position, on account of its persistent tenacity in cohering to the surface of the condensed gold already in the cavity. Gold having this extreme cohesiveness is a rarity. If the cohesive gold in universal use by the profession possessed such remarkable cohesive properties as this, we should see very many more leaky fillings than we do, and we should also see the surfaces of gold fillings retain a polish better than most of them do. The truth probably is, that among all the golds on the market to-day there is comparatively little that is absolutely non-cohesive, unless made so through special preparation by the dentist himself, and a smaller per cent still that could be claimed as perfectly cohesive, unless other means than the ordinary methods of annealing are resorted to. It may therefore be assumed that most of the gold inserted in teeth at the present time is used in a semi-cohesive condition, and this condition is more favorable to good results than would an equal use of either a strictly non-cohesive or a thoroughly cohesive gold.

But there are places where we need a non-cohesive gold, and others where the gold should be as cohesive as we can make it, and it is to the definite arrangement of the different forms, non-cohesive, semi-cohesive and cohesive in the same cavity that your attention is invited.

Let us suppose a cavity properly prepared on the proximate surface of a bicuspid, extending well over on the occlusal surface. The proper preparation of a cavity like this implies that the cervical outline shall be as nearly horizontal as circumstances will permit. An abrupt angle between the cervical and lateral outlines is, of course, impracticable, but the curve should be rather a sharp one, to give a broad, level base to the cavity.

The non-cohesive gold to be used should be in the form of

cylinders, and the cylinders should be sufficiently large so that when laid along the floor of the cavity with the ends facing the buccal and lingual walls, and there compressed, the layers of foil forming the cylinder will be wide enough to extend from the wall of the cavity nearest the pulp to the cervical border, and overlap it.

The portion of the cavity in which the filling should be started in these cases, is usually in the angle formed by the junction of the lingual with the cervical wall, or, in other words, in the cervico-lingual corner. This statement is made with the reservation that the method of procedure must vary. We cannot always obtain an ideally formed cavity, and any modification in the form of the cavity may modify the starting point of the filling, as other processes of operating are modified by circumstances. A large cylinder of non-cohesive gold is laid on its side in the cervico-lingual corner, with one end looking toward the buccal wall and the other slightly turned up toward the occlusal surface. This is carefully "coaxed" into position without breaking up the layers forming the cylinder or disintegrating the mass. No attempt is made to condense this first cylinder. It is partially compressed to ascertain whether or not there is going to be a sufficient mass of gold which, when condensed, will perfectly fill any undercut, and extend across the floor of the cavity and slightly overlap the cervical border. In shallow cavities one cylinder, of a size so large that it will barely pass through the orifice of the cavity without being torn or disintegrated, will sometimes accomplish this, but in many cases it will require two or three cylinders before sufficient bulk of non-cohesive gold is obtained. When the required amount is in position, a smaller cylinder of cohesive gold is annealed as thoroughly as can be done without melting the outer layers of foil, and this is placed on the uncondensed non-cohesive gold. A plugger point, shaped to conform somewhat to the walls of the cavity, is then brought down on the cohesive cylinder, and force by hand pressure is exerted to drive the mass directly toward the cervico-lingual corner. This wedges the gold firmly into the angle of the cavity. The non-cohesive gold is irresistibly carried before the cohesive, and is adapted to the walls without being punctured and squeezed out of the cavity, as would be the case if the plugger point were brought directly on it. The cohesive cylinder, when thoroughly annealed, forms an impenetrable mat against which the plugger may be pressed with sufficient force to insure adaptation and condensation, without breaking up the mass of gold into fragments. The cohesive gold is carried into the substance of the non-cohesive, and lends solidity and stability to the first portion

of the filling. The only means by which these first pieces of non-cohesive gold can be condensed independently of the cohesive cylinder without danger of disintegration, is by the use of broad-pointed pluggers, and with broad pluggers there is no assurance that adaptation is perfect in undercuts or grooves. The spreading qualities often attributed to non-cohesive gold must not be depended on to any appreciable extent. It is probably safer to assume that gold, whether cohesive or non-cohesive, will go only where it is forced to go by definite and direct pressure, than to depend on a lateral moving of the mass when the plugger point is brought to bear squarely on it.

When the first pieces of gold are anchored in position it will be found that the cervico-lingual corner of the cavity is well covered over, with the gold extending further along the cervical than the lingual border. It is sometimes necessary to use two or even three cylinders of cohesive gold to overlie and protect the non-cohesive, but no cylinder except the first should be annealed to a high temperature. The object of high annealing in the first cohesive cylinder is to obtain a mass of gold the layers of which will weld on the slightest pressure, so that when the plugger point is brought against it the layers cling together so tenaciously that great force may be exerted without puncturing it. This quality not being so necessary in the succeeding cylinders they are rendered only semi-cohesive.

When the filling has progressed thus far in the ordinary cavity of a bicuspid, it will usually be found that the gold extends more than half way across the servical wall in the direction of the buccal wall. The conformation of the cavity viewed at this stage of the operation shows a decided depression at the cervico-buccal corner, and into this depression a cylinder of non-cohesive gold is placed, in the same general arrangement as with the first cylinder in the cervico-lingual corner. The end looking toward the lingual wall will slightly overlap the gold already in place, while the other end will curve toward the occlusal surface along the cervical third of the buccal wall. The same plan of anchorage is followed here as with the other corner, a retaining instrument being held firmly against the condensed portions of gold to keep the mass from moving while the process of wedging between buccal and lingual wall is progressing. When the span is made between these two walls and the gold thoroughly condensed along the whole cervical outline, and up to the cervical third of the lingual and buccal walls, we have a firm foundation for the filling, which, if the cavity has been properly formed, cannot be tipped or dislodged in any way by mallet force during the subsequent process of the operation.

Up to the time when the connection is fully made between the lingual and buccal walls, and the cervical outline well covered, a mallet of any kind is ordinarily contra-indicated. Hand pressure vigorously exerted in the proper direction, will insure good adaptation, with less danger of injury to margins. After the floor of the cavity is covered, a mallet should be used to complete the condensation. The first blows should be struck midway between the buccal and lingual walls, and the plugger point carried in either direction from the center toward the walls, the last blow coming on the gold immediately overlying the walls.

The cavity is now filled about one-third full. A cushion of non-cohesive gold covers the margins, while solidity is secured by a layer of semi-cohesive gold over it. The filling is slightly higher along the buccal and lingual walls than in the center, while the whole mass is firmly anchored in place. The most difficult part of the operation is completed, and the process from now on consists merely in building back and forth between buccal and lingual walls. This, for the most part, is done with semi-cohesive gold, but at any point in the cavity where there is a decided undercut or groove, a cylinder of non-cohesive gold should be laid into it and driven to place with a smaller cylinder of cohesive gold. As the surface of the filling is being reached, and all margins are protected, the gold should be annealed thoroughly to gain the benefit of its greatest cohesive properties.

When the occlusal portion of the cavity is approached a definite plan of anchorage should be followed to insure firmness of the filling at this point. If the groove running between the cusps and leading to the depression near the opposite marginal ridge is deep, a cylinder of non-cohesive gold should be laid in it with the ends looking mesially and distally. A cohesive cylinder should be placed on this and thoroughly condensed into it, the end of the latter overlapping the cohesive gold already in place. From this point to the completion of the filling, the gold should be made as cohesive as possible. Where the groove is shallow, cohesive gold should be used throughout the entire occlusal portion of the filling. In case the depression near the opposite marginal ridge dips into the dentine much deeper than the groove between the cusps, it should be filled with non-cohesive gold nearly to a level with the floor of the groove before any gold is placed in the groove itself. In these cases the groove is usually shallow, and we now have two sections to the filling—the main body in the proximate cavity, and the smaller piece in the depression on the occlusal surface. A cylinder of cohesive gold is then placed in the groove, with one end overlapping the distal section and the other the mesial, and condensed

so as to bind the two portions together. Gold thoroughly annealed is used to complete the filling.

It will be seen that the general arrangement of the different forms of gold in a filling of this kind is as follows: Non-cohesive gold lines the cervical portion of the cavity and fills any deep depressions or undercuts, semi-cohesive gold forms the bulk of the filling, while a decidedly cohesive gold covers the surface.

The selection of plugger points for this method of filling is important. The question of form cannot be treated on in this paper, but a word may be said as to serrations.

For the purpose of fastening the first pieces of cohesive gold into the substance of the non-cohesive, pluggers with deep serrations are called for. Deep serrations secure an interlacing of the layers, and result in a more stable union between the two forms of gold than can be accomplished with shallow serrations. In the process of building up the filling with semi-cohesive gold when we are simply adding piece after piece to the main mass to increase its bulk, and not working around margins, deep serrations are indicated on the same principle. But in condensing over margins deep serrations are dangerous, on account of the tendency to puncture the gold and injure the enamel borders. Shallow serrations should be used along all margins. As the surface of the filling is approached and the gold is rendered more cohesive, the necessity for deep serrations passes away, and the best results are obtained by using shallow serrations. When the last piece of gold is in place, condensation may be completed with pluggers having no serrations.

The statement just made with regard to deep serrations applies only to hand pressure, the hand mallet, or automatic mallet. With the engine, electric, or any of the rapid acting mallets, deep serrations are contra-indicated.

In the present paper only one form of filling has been described. A detailed description of the methods to be followed in the different classes of cavities would extend the paper beyond the limits assigned to it.

Dental Review.

Even front teeth may be filled nearly full of alloy and then finished with gold, if the tooth is first lined with a coat of thin oxiphosphate to prevent the alloy discoloring the tooth. A like coating between the alloy and the gold will prevent the mercury affecting the color of the gold, though the latter is pressed on to newly-placed alloy. Our preference, however, is to fill the first part with oxiphosphate only.

OUR QUESTION BOX.

With Replies From The Best Dental Authorities.

[Address all Questions for this Department to Dr. E. N. Francis, Uvalde, Texas.]

Question 146. *A girl of ten years fell from a bicycle and broke the corner of her right upper incisor a little above the margin of gum, the fracture extending to opposite corner of tooth. This happened three weeks ago, and I found the pulp alive and exposed; the opening and exposure being about the size of a small pin head. As the child was in good health, and free from pain, my advice was to postpone treatment and await results. Another dentist advised the immediate removal of pulp. What is your advice?*

The condition and quality of tooth; the condition of nerves after receiving a shock sufficient to shatter the tooth must be considered, and it is difficult to advise treatment from the description. The fact that the child did not apply for treatment till three weeks after the accident favors the presumption that very little, if any, pain existed during that time, and this is remarkable, considering the fracture and the exposure of pulp, if, as you think, the pulp is in a healthy condition. The shock has undoubtedly paralyzed the nerve, and this may be followed by recovery of sensation or the death of the tooth. The capping of "nerves" is not always a success under the most favorable circumstances, but we advise a trial, and in this case the adjustment of a thin metal disk over the capping to prevent pressure in cementing a crown or tip. Some advise the use of lead cones; some use platina, gutta-percha, cork, cardboard, mineral and vegetable fiber, or the application of cements or pastes. We are not interested in the capping used, but in results, and advise you to use the method most successful in your hands. After the nerve has been capped, a gold tip with band support, or full gold crown, can be temporarily cemented in place to await results. As the child grows older new dentine will form a pulp protection if the operation is a success, so that in after years the preservation of tooth with porcelain or metal tip will be a simple matter. Save the pulp by all means, if you can, but don't put your patient to unnecessary expense till you have made a thorough examination, and then if you are doubtful of results attach a gutta-percha or rubber cap, and allow that to remain for a short time. You are taking great chances by leaving that pulp exposed to the action of food, saliva, and the germs or chemical changes opposing health and life.

Question 147. *A young lady of nineteen years, good health, with none of her third molars erupted, had slight swelling in region of right lower third molar three months ago. Nothing was done, thinking the tooth was erupting. Now it has swollen again, and in lancing I found pus. Is the tooth dead, and will it erupt? There is plenty of room for it.*

Not necessarily dead. I have known cases to continue in this way for six years, and yet the tooth erupted in healthy condition; death of tooth will sometimes result. The tooth will undoubtedly erupt after inflammation has produced absorption of bone covering it, and the soreness will be repeated at intervals of weeks, months, or years, till this is accomplished.

Question 148. *Patient, young man aged twenty-six, called some years ago with space between right upper central and left lateral, left central having failed to erupt. The cuspid had moved forward till the space between it and the right central was just about equal to width of a central. The left lateral standing a little within the arch and slanting forward was capped with gold crown, to which was soldered a facing to supply the missing central. About a year ago the missing central made its appearance, and now is erupted about an eighth of an inch, coming quite regular, and is now between central and against tooth facing, which prevents its coming further. It is scarcely noticeable a few feet away. There is no irritation or discomfort, but the patient believes tooth is still coming down. What is best to do? If facing is removed and left lateral extracted, will the central erupt and fill the space?*

The central will erupt, or can be drawn down with springs. I should remove the facing and lateral incisor at once, and allow nature to take its course till assistance is required.

Question 149. *Will you kindly give formula for a rubber cement with which ordinary No. 6 gold foil can be attached to vulcanite base for lining?*

Benzine is a pretty good solvent for rubber; bisulfite of carbon is generally used, and is the best, both for rubber and gutta-percha. But look out for fire, for it is very inflammable. Make a small amount, and when the smell of the bisulfite of carbon is an objection, chloroform is the best solvent.

Question 150. *I would like to know of a good remedy for bleaching or restoring dead centrals and laterals to their natural color; also, the best remedy to destroy the nerves of pulps without pain.*

See Question and Answer in July ITEMS for 1892 for bleaching. Pyrozone is good; arsenic; extraction of nerves under gas, or the removal, with slight pain, after application of cocain. The remedy or method used depending much on the location of tooth.

Dr. William H. Trueman favors us with the following answer to question No. 142.

Our early experience with Spyer's surface cohesion forms was much like that narrated in question 142.

We overcame the difficulty by filling the depressions with plaster.

The cohesion form we do not usually place in position until after the case is packed, flask is opened, and all surplus rubber is removed. The face of the cohesion form which is to go next the cast is now covered with plaster, mixed moderately stiff, then carefully wiped so as to remove all

plaster, except that filling the minute depressions. The form is now carefully adjusted to cast, and when plaster has hardened, the two parts of flask are placed together, reheated, and flask closed.

The manufacturers of the surface cohesion forms could readily, I think, make the prominences solid, and thus avoid the above objection.

Pure tin is a soft metal and readily flows under pressure. Passing the metal between rollers, one with a plain surface and the other suitably engraved, would no doubt accomplish the object.

In answer to W. B. Frelton, freshman student of the Birmingham Dental College, Alabama, who writes us in relation to the question of whether an acid acts on a metal or a metal acts on an acid, we would say, that we have submitted the inquiry to a well recognized authority and teacher, and cannot do better than to quote his answer:

"Replying to your inquiry, so far as I understand your answers to both questions: *a.* 'What is metal?' *b.* 'What is an acid?' are quite correct. It is difficult, if not impossible, to give a comprehensive answer to the first one, but the one you give is entirely correct as far as it goes. The reaction of a metal with an acid is a natural one between the substances involved, therefore it is quite as correct to say that the metal acts on the acid as that the acid acts on the metal. If you regard the result as a replacement of the hydrogen of the acid by the metal, as it is generally done, then it is correct to say that the metal acts on the acid, thereby replacing its hydrogen. All acids, according to modern views, must contain hydrogen, and the replacement of its hydrogen by a base or metal liberates the hydrogen and forms a salt. The formula given for the action of aqua regia on au. is quite correct."

Office and Laboratory.

The use of sulfuric acid in root canals seems at first glance to be a bold scheme for opening up small and tortuous canals, but a trial in just such a case has justified in my hands the claims made for it by Dr. Callahan. The canal was so small that a broach would not enter far enough to accomplish anything, so I thought to try the Donaldson cleanser and sulfuric acid. It worked like a charm. As soon as the cleanser would penetrate to the apex I dropped into the cavity some bicarbonate of soda to neutralize the free acid, and can see no reason why it is not a safe operation done carefully. The result was all that could be desired, and if it holds out under further trial it certainly will help us over a very trying part of root treatment.

Pacific.

PRACTICAL POINTS.

By Mrs. W. J. Walker.

Separating Teeth.—Use cotton cord, tying it between the teeth surrounding their proximating contours. It will stay in place and not impinge on the gums. If there are cavities in the teeth insert a piece of cotton wet with creosote, and dry cotton over that, tying the knot over the cotton. *F. A. Ray.*

Non-Odororous, Aqueous, Disinfecting Fluids.—Use a ten per cent solution of boro-glycerin, or a saturated solution of silico-fluorid of sodium for the non-odororous disinfection of instruments. *A. W. Harlan.*

Removal of Devitalized Pulp.—After removal of arsenic, wipe out with a fresh solution of dialyzed iron, and place in the cavity a small pellet of cotton saturated with a saturated solution of tannin in glycerin; seal in with gutta-percha. After ten days the pulp may be removed whole without pain and without hemorrhage. *H. H. Silliman.*

Devitalizing Paste.—Combine with "Robinson's Remedy" sufficient arsenic to make a stiff paste. Work this into cotton fiber till it will hold no more. Twist cotton loosely into a cord and clip into small pieces. They will be slightly adhesive, and can be accurately applied. To an aching pulp the effect is sedative, the arsenic being presented in a soluble form, producing no irritation. *E. C. Kirk.*

Replacing Broken Porcelains in Bridge Work.—Drill holes through the backing from the front, and countersink the palatal portion. Cut a screw thread on the pins of the porcelain facing, and hold in position by nuts on the countersunk side of the backing. *E. A. Bryant.*

Setting Gold Crowns.—Having the root thoroughly dry, coat it with a thin solution of Hill's Stopping in chloroform; dry with hot air. Place in the crown sufficient stopping of the proper consistency; warm, and put in position rapidly with hand-pressure, leaving an opening in the crown for escape of excess. When well in position chill the crown thoroughly with ice water, and fill the vent with gold wire or foil. *B. Oscar Doyle.*

Cement Fillings for Pulpless Tooth-Crowns.—Make a saturated solution of zinc-sulfate in water, and use it with the powder in the oxichlorid package. It will set very hard. Use as foundation for fillings in pulpless tooth-crowns. *Review.*

Root-Canal Filling.—In all roots back of the second bicus-pids use copper wire with chloro-percha. The adaptability of the wire in tortuous roots, the therapeutic action of the sulfate of copper on tooth-structure, the hermetic sealing of chloro-percha, combined with the preserving qualities of the chloroform, make this very desirable in nerve-canal filling. *W. J. Morrison.*

Absolute Alcohol may be prepared for all practical purposes by placing a few empty gelatin capsules in a two-ounce bottle of alcohol, 95 per cent pure. *W. A. Johnston.*

Finishing Gold Fillings.—A finishing bur should always be oiled before using. It will cut better and finish the filling beautifully. Finishing disks and strips should also be oiled.

Edmund Noyes.

In soldering tubes or nuts to receive screws to their attachments, chuck the end of your lead pencil in the holes and the solder will be kept out.

Western Dental Journal.

Of the eight men who met together in Montgomery, October 6th, 1869, and organized the Alabama Dental Association, four are now living. Drs. H. D. Boyd and E. H. Locke being still active members of the twenty-five years of enjoyment of the benefits of associated effort.

The President of the recent Alabama Society urged that a delegate be sent from the State Board to the National Board of Dental Examiners, to work in advocacy of the movement now on foot to make one board examination answer for all the States in the Union, a courtesy due from one State Board to another.

Alabama enjoys the proud distinction of having had enacted the first State law regulating the practice of dentistry, in 1839. The present law was enacted and the first Board of Dental Examiners appointed by the Legislature in 1881, and at its first meeting 137 licenses were granted. The number has since been increased to 302.

AN ORIGINAL CROWN.—Dr. J. H. Crossland, of Montgomery, has a crown of special feature. While the root is strengthened by a band, the band is not external to the root, and does not impinge on the peridental membrane, nor does it necessitate a crown larger than normal at the neck. The band is set in a groove cut in the face of the root, between the canal and the outer circumference. This gives added strength to the root, which cannot split. It is free from the objections to the external ferule.

ITEMS.

There's nothing kills a man so soon as having nobody to find fault with but himself. It's a deal the best way o' being master, to let somebody else do the ordering, and keep the blaming in your own hands. It 'ud save many a man a stroke, I believe.

George Eliot.

* * *

AN HONOR TO HIS PROFESSION.—Sir John and Lady Tomes, of England, lately celebrated their golden wedding. Sir John Tomes was one of the pioneers of reputable dentistry in his country, and for his high attainments received the honor of Knighthood at the hands of the Queen.

Practitioner.

* * *

However brilliant a dentist may be in professional attainment, he cannot long conceal from his fellows any dishonest propensities that may mar his character. The first element of true success in dentistry, as in other callings, is to be true to ourselves and to our patients.

Dr. Johnson.

* * *

After reading the article in April ITEMS, on "What Rubber Plates do to the Mouth," the idea occurred to me that, providing the symptoms mentioned by Dr. Haskell are present when red rubber plates are worn, even in only part of the cases, it might be of benefit in cases of chronic constipation. Why not vulcanize tablets of red rubber, to be held in the mouth a short time each day till the constipation is relieved and the desired result attained?

Personally, I have never seen any bad results from rubber plates in ten years making. *E. P. Thornton, Harrisburg, Pa.*

* * *

While attending a meeting of the North Carolina State Dental Society, attention was called to the article on local anesthetics by Dr. J. E. Davis, which appears on page 260 of May ITEMS. It was stated that if any student should follow out this article he would have some dead patients on hand. Particular exception was taken to the part wherein it states that "I should not use more than three or four ordinary syringesfull on one patient at a time." Is there not a chance here that if this article is read and is carried out in detail, of making a case for the coroner?" We think it might be well to mention it in the June ITEMS.

A. S. Robinson.

Though a great believer in crowns and crowning, I do not advise their use in any case in the molar region when the natural crown can be contoured or rendered useful by filling or other means. Some operators will sacrifice a large portion of a tooth to crown it. I would preserve the natural part as long as it can be made to carry on its fair share in the work for which it was intended; when it fails to do this, the roots will probably bear crowning, and so the integrity of the dental arch may be preserved for a longer period than if crowning were resorted to in the first instance.

T. Mansell.

* * *

Professor Dewar, who so startled all by his wonderful achievements last year with liquid air, has now succeeded in reducing our atmosphere to a solid condition; this being accomplished by placing an empty tube inside another full of liquid oxygen, the latter being boiled off under a high vacuum, the intense cold thus produced bringing the air in the empty tube first into a liquid and then a solid form. Professor Dewar has also succeeded in demonstrating that the tensile strain of metals is stronger in low temperatures; for instance, iron at 180 degrees below zero being twice its ordinary strength; the magnetic properties of metals also become stronger in low temperatures.

Jour. Brit. Asso.

* * *

FILLING MATERIALS.—Gutta-percha and oxiphosphate in combination is one of the best temporary fillings for large cavities in the proximal surfaces of bicuspid and molars, and extending below gum margin and involving a portion of masticating surface. We use this compound filling, thus: Beginning at the cervical margin place the gutta-percha in the cavity in the usual manner till it is about one-third full, and then complete the filling with cement. I use paraffin on the surface with a hot burnisher.

Try this, and you will be pleased with the results. When we desire to fill these permanently we use tin-foil for the first third, and build the remainder with gold or amalgam.

Edward Eggleston, Richmond, Va.

* * *

ANTIPYRIN.—An inquiry as to the ill effects following the use of antipyrin has been carried out by the Therapeutic Committee of the British Medical Association. Although it seems that an impression is widely prevalent as to the occurrence of unpleasant symptoms following the administration of this drug, the present investigation goes to show that there are not sufficient grounds for such a belief. Seventy-three per cent of the observers had never noticed any ill effects worth mentioning, and even when such

have been recorded by the remaining twenty-seven per cent, they have been isolated instances out of many hundreds of cases. It also appears that in the large majority of these instances the doses employed have been injudiciously high or too long continued. A few examples are given in which the quantity administered was so small as to lead to the belief that the ill effects were due to idiosyncrasy, as is the case with almost every drug. The best precaution is to begin with small doses, not exceeding ten grains.

Dental Science.

* * *

Dr. F. H. Gardiner's plan of capping pulps is: After application of the rubber-dam, perfect dryness of the cavity and surface should be obtained. Over the surface of the pulp a thin film of Canada balsam should be placed, or a film of copal ether varnish. After the evaporation of moisture has taken place, either a very thin paste of oxisulfate of zinc should be gently manipulated over and beyond the points exposed. When this is sufficiently hardened, a portion of the surplus may be trimmed away, and the whole cavity filled with oxiphosphate of zinc. This must be allowed to harden for a period of not less than thirty minutes. When the patient is ready to leave the office, and before the rubber-dam is taken from the tooth, the surface of the filling should be painted with a solution of copal ether varnish. The use of a blast of hot or cold air will cause this to become rapidly dry. Care must be taken to avoid filling the cavity so full as to produce pressure on the pulp in mastication.

Southern.

* * *

SOME REASONS FOR DAILY EXERCISE:—1. Any man who does not take time for exercise will probably have to take time to be ill.

2. Body and mind are both gifts, and for the proper use of them our Maker will hold us responsible.

3. Exercise gradually increases the physical powers, and gives more strength to resist sickness.

4. Exercise will do for your body what intellectual training will do for your mind—educate and strengthen it.

5. Plato called a man lame because he exercised the mind while the body was allowed to suffer.

6. A sound body lies at the foundation of all that goes to make life a success. Exercise will help to give it.

7. Exercise will help a young man to lead a chaste life.

8. Varied, light and brisk exercise, next to sleep, will rest the tired brain better than anything else.

9. Metal will rust if not used, and the body will become diseased if not exercised.

Exchange.

EDITORIAL.

WHAT ARE YOU GOOD FOR?

There are men who go all through life good for nothing. Some of them drift into our profession. They were a nuisance when they came in, and have made little improvement since. Year after year passes and they are still in disgrace. What a practical proof of the doctrine of Calvinism as expounded by the darkey : " Wuns in dis grace always in dis grace."

Are you one of them? Wake up, and be good for something, or quit and go to—well, we hardly know to what or where, for a man that will lie about his dental office useless and unused but by the flood wood of community—of what use is he anywhere else? The farmer wouldn't have him around his back door to chop his wood; the mechanic wouldn't use him as a chore boy; the very hod-carrier and grave-digger wouldn't give him room if he would work for his board. He is too lazy for anything—even for a tramp.

But soberly, why do a mere catch-penny business while your neighbor is *the* dentist of the place? Why be content with the riffraff of the community who clamor for cheap work and don't pay for half of that, when, by intelligence and skill, you can command a competency, with thanks? Come, wake up, and give some account of yourself; give some reason for the folly that is in you, or exchange your folly for wisdom, your laziness for thrift, and your poverty for wealth.

Why should your neighbor do better work and have a better reputation and better patrons and better prices than you? Do not think to excuse yourself by saying he deceives his patients, etc.; that would not last long. There is something worthy in the man that you have not. Look for it as with a lighted candle.

You say he was made of better stuff than you? Are you sure? We all have talent, but it is not brought out in all of us. Are you sure yours is not hidden away in a napkin while his has been brought into use? Some of our smartest men did not seem to have much at first, but what they did have they made good use of. This

neighbor of yours is evidently doing his best with what he has. Are you? There may not be as much difference between you in nature as in practice. Are you sure more thorough effort would not bring a better appearance to you and your office, and better skill and acceptability to the public? After you have swept away the cobwebs and rubbed your sleepy eyes, you may find something else to do. It is step by step we improve. But the trouble with some of us is we do not take the steps. Improved appearance and skill are not brought about by dreaming and loafing.

Tell some of your friends to kick you. We have known a "right smart" kicking to boost a lazy, good-for-nothing fellow into a higher sphere. Take any honorable way to get there. But be sure you "must fight if you would reign." You will not get there

"—on flowery beds of ease,
While others fought to win the prize,
And sailed through bloody seas."

Have you not some enemy to bring you into fighting trim? Blessed be the lazy man who has an enemy or a competitor to arouse his spunk. If you have been living such a neutral, useless life as not to have an enemy, and have not ambition enough to know when you are abused, get mad at yourself, or at the old cat—any thing, if you can get worked up enough to know you have been asleep. Something desperate must be done, or you are lost. Hav'nt you a wife that can thrash you? Talk about your angelic wives—the devil of a wife is better for some men. I know a lazy, drunken fellow who was reformed by his wife breaking a chair over his head. And I know another who was made a thrifty manufacturer by an indignant wife kicking him out the back door. It was while he was sitting on her ash barrel whittling that he discovered his life work and received his inspiration.

In the life of George W. Childs, of the *Philadelphia Ledger*, who recently died, we have an example of unusual usefulness, philanthropy and intelligent success. It did not require his decease to bring these to the surface. They were prominent

throughout his life; so that the eulogies now heard are but the grateful repetition of the facts of a well spent life. Since his death, however, additional facts are told by those in his confidence, who could not till now tell of his vast enterprises in philanthropy which were being carried out by his order while he lived. From his youth till his death he made few false steps in financial schemes. He made money fast, and continually sought avenues for spending it where it would do the most good. Though always busy, he seldom hurried, and though continually assuming weighty responsibilities, was always cheerful and lighthearted. Courteous and social, he was a favorite everywhere. Flattered by the rich, loved by associates and implicitly obeyed by servants, he was as unostentatious and simple-hearted as a child.

Some who did not know him may consider this flattery, but Mr. Childs is now a memory, and telling the truth is not flattery.

Almost as much can be said of his loved companion, Mr. Drexel. They were together in many benevolent enterprises, and death did not long separate them. They lie in the same vault. May we so live that half as much good can be said of us as is truthfully said of these two unobtrusive, quiet, heaven-born souls.



REPUTATION *vs.* CHARACTER.

Do not expect a better reputation than your character will bear. You may get it, but you cannot keep it; you may close it about you as a beautiful garment, but somewhere there will be a rent which will reveal the true character. The secrecy of evil acts and evil habits, the cunning of cupidity and selfishness, the fire of avarice and lust may be covered for a time, but they will reveal themselves. They will brutalize the very countenance; they will degrade the most refined manners; they will peep out somewhere, somehow, and sometimes in the most unexpected and inopportune ways and places. For instance, you may appear ever so clean, but if there is the stale stench of tobacco or beer, they cannot be hidden by the most esthetic perfumes; and it is then that you have a call from a lady of special distinction you would give anything to

please. The conduct may be polite, the language select, and the clothes emaculate, but she will detect the insidious fumes from the breath and even from the body's million pores, and be disgusted.

It is hard to live a double life. In morals a dentist cannot have one character for his family and another for his office; one for the public and another for his club; one to be seen and another to be hidden. Through all disguises there is a piercing look of spiritual vision. Around every one of us there is an ethereal atmosphere of our own creation. In spite of everything, we throw out an unconscious influence that tells more truly than words or acts or profession what we are.

WHAT SHALL WE GAIN IF WE LOSE ALL ?

I like to see a man dive into business as though his life depended on success, but I like to see him come up from the struggle smiling in the health and wealth of an uninjured nature. Let him gather from its depths the precious stones, but let him keep his forces so well preserved that he can take pleasure in what he gathers. Let him show dexterity and courage; let him venture and sacrifice, exploring far down among the precious treasures, but let him return with the rebound of an elastic, normal, enjoyable manhood, or he had better have remained on the shore of poverty, playing with his children. He is a fool and a suicide who voluntarily gives all there is valuable of his life to gain even the whole world.

We received an impressive lesson on this by visiting, while residing at Winona, Minn., a miserably dried up old bachelor, whose appearance and surroundings were poverty and want, but who counted his millions. He lived over one of his stores with a little dog, in a small, back, dark room, that he could not rent. It was difficult to get to it for the rubbish in the hall, and the dirt and the cobwebs that darkened the small window. In his room were only two chairs, a table, a stand, a trunk, and his miserable bed; no carpet, no pictures, no cleanliness, nothing to relieve the dearth

and squalor and neglect of a miser's home. After transacting my business I said to him, "Why, colonel, I would not give my cheery, bright home with no gold for your home and all you are worth."

"You would be a fool if you did," he replied. "With your bounding, succulent, joyous nature; your rich, overflowing passions and culture, and the sunshine of your home, you are a king; you have all things because in the midst of the strain and temptations of business you have retained the sweet juices of a normal nature, while I have lost all to gain—what? I have dried up every flow of enjoyable passion, dwarfed every faculty, and unfitted myself for every pleasure, to get money. Though I have a million, I would give it all for seven such intelligent, happy children, and a loving wife, and a home so rich as yours."

Soon after, he died on his way to a restaurant for breakfast, with none to pity his abject, lonely death but his little dog.

Business, especially our business, is exhausting, hardening, souring. It is straining to our nerves, trying to our tempers, and exacting to our attention. Unless we are careful, when we have gained our ambition we have lost all.

We call to mind now one who started out with us. He has accumulated wealth and fame, and still retains a good practice, but his beautiful brown-stone front is a mockery. His richly furnished rooms resound only to the echo of a servant: Wife dead of a broken heart; children, one by one, driven from home by ill-temper, and the father himself a physical wreck. The only place in which he holds his temper or his integrity is at his dental chair, and here while gaining gold he has lost all worth having. "Let him that thinketh he standeth take heed lest he fall."

"The greatest good to the greatest number" works satisfactorily just so long as the "greatest number" recognizes the fitness of the rule. The volcanic state of civilization at present, however, refuses to accept overtures for its emancipation. And the world blunders on.

OBJECTIONS TO AMALGAM.

Dr. C. Edmun Kells says, in April *Cosmos*: "One of the objections, and without doubt the most serious one to the use of amalgam, is that perfectly uniform results are not obtained."

Is this an objection to amalgam only? Does it not obtain equal force against all other filling materials? Why single out amalgam? We are all perplexed sometimes with the action of cement and gutta-percha, and even with gold,—“even in the same mouth.”

This is the reason we are all so careful in selecting our filling materials, and it is the reason why the best are so generally in use by our best dentists, though the flood wood of the profession will take anything that is the cheapest. This is the reason, too, that our most prominent, skilful and experienced manufacturers have to be exceedingly and continually careful in every stage of their preparations; and that the man who is the most successful has his fortune, though he may have but little profit on each package. Dentists are now too intelligent to be deceived by flaming advertisements or mysterious assumptions. As Prof. Shepard, of Boston once said at a clinic in Philadelphia, when some one handed him a new preparation of gold for filling, and essayed to tell him its superior manipulative qualities, “Put it on the tray, and I will soon tell you what it is. The results will tell.”

In the manufacture of alloy the manipulation is quite as important as the materials used. With many it is difficult to melt tin with silver, without burning the tin, and this is still more difficult when gold and platina are added, and also to have the mix uniform. But experience overcomes these difficulties.

Dr. Kells says “different lots of the same brand of alloy may and do vary in composition.” Certainly; but is this an unfathomable mystery? Is it an inexplicable hap? While there are makes that do vary in quality, there are others which do not, because made invariably the same and by the same master hand, and in the same heat.

Then again, there must be skill in the selection of materials. Some years ago we were offered some Western bricks of silver

below the market price for our alloy. We found lead in it. Suppose we had used it because it was cheap? We should have been as impolitic as a dentist who wrote us "I have been using your alloy for years with uniform success till lately. I bought some from a Western manufacturer, who warranted it to be the same, or at least as good as your own make, and I cannot use it with satisfaction."

At another time our merchant sent us a pig of tin which had lead in its composition. When expostulated with he said, "Oh, I can't believe the little lead in that tin can make any difference." But that little cost me fifty dollars to eliminate from a single batch.

Yes, and we know that without much experience and careful personal supervision in making alloy, "it is practically impossible to manipulate it in a uniform manner, and under the same conditions." But no more so than with other filling materials, and with all of them the manipulation of the dentist in using it is quite as important as the manipulation in the making. When we see the large number of jacks and cobblers using alloy so bunglingly and ignorantly, we are astonished, not "that there are not perfectly uniform results," but that in spite of these empirics "this much-abused material" does so well. If half the intelligence, care and skill were used with alloy—even by the best operators—as is bestowed on gold, we should soon find that alloy is the best material for filling teeth, except where its color is conspicuous.

Dr. Kells is also right in saying of the making of alloy: "The process of crystallization may produce varying resultant masses, as it, itself, has undergone under varying conditions." But that manufacturer will have to step down and out who cannot control this crystallization, and that dentist who cannot so talk to his alloy as to have it crystallize under the most favorable conditions, is not a magician. The custom of some dentists in mixing up a mass sufficient for a dozen fillings and expecting the last to be as good as the first, is an ignoramus. Yet we have seen dentists who use a mass that is very soft, so it will last for several fillings, and when, even then, it becomes crumbly, add more mercury, expecting it to be "just as good."

HINTS.

In rolling aluminum, it is said it can be successfully annealed by frequently dipping it in boiling water.

* * *

The Vermont Dental Association has lost a prominent member by the recent death of Dr. A. H. Jackson.

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In filling loose teeth it is well to envelope it and adjoining teeth with oxiphosphate, leaving exposed only the portion to be filled.

* * *

Dr. P. L. Waight, of Little Falls, New York, writes us that corn meal and water is excellent for burns. The paste excludes the air and keeps the parts moist.

* * *

Dr. J. W. Greene, on another page, gives excellent advice concerning making artificial teeth. But, my! how many can come up to his standard? Come, friend Greene, do tell us how it is done?

* * *

The Legislature of Quebec has refused to allow the Dental College of the Province to grant a doctorate in dentistry. This the college desired to do, join the American National Association of Dental Faculties, and to do so had to make its degrees and arrangements similar.

* * *

GOLD IN DENTISTRY.—A French statistician, Mennier, estimates the consumption of gold for purposes of dentistry to amount annually in the United States to 1,800 pounds. Mennier declares that a century hence American cemeteries will contain more gold than now exists in France.

* * *

BLACK RUBBER.—After the polishing of black rubber plates there will sometimes be noticed a grayish appearance on the surface. This is due to the elimination in some way of the coloring matter, which leaves exposed particles of the rubber in their natural hue. These may be removed by the application of carbon bisulphide, which is a solvent of rubber. Chloroform will partially remove it, but the other is best. As the carbon bisulphide has a very offensive taste and color, the plate must be carefully washed after its use.

DENTISTRY UP TO DATE.—The following which we cull from the column devoted to "Replies to Queries" in the *English Mechanic* may perhaps prove interesting, as showing the advanced knowledge of the public on the *modus operandi* of filling teeth:

TOOTH STOPPING.—Pure beeswax is an excellent thing for filling up small holes. Don't kill the nerve, the tooth will soon drop out if you do; but cure neuralgia by tonics, wine, or liver remedies, as indicated. Such a stopping as this can be removed now and then for a rinse of borax or permanganate. When a tooth becomes sensitive to the air, it is a good plan to wear a piece of cotton wool over it for about a day, till the "cold" is gone.

* * *

Another dentist is honored with the Mayorship of his city. Dr. Gustavus North has just been elected Mayor of Springville, Iowa, "by the temperance element" of its voters. What a shame that Iowa as a State is going back on her glorious temperance record.

* * *

In the late Alabama Dental Society Dr. Boyd outlined a system of what might be termed mouth massage, a systematic but gentle rubbing of the inside of the infantile jaws by the mother or nurse, by which he claims the jaws may be so developed as to allow the deciduous teeth to erupt with sufficient proximal space to prevent decay, allowing them to be shed normally, with ample room for the permanent teeth.

In addition to the benefit derived from this passive exercise, the child is thus accustomed to having the mouth handled, and when the time comes will not object to having the teeth washed at first, and then brushed, and will submit willingly to the proper examination and care of the teeth.

* * *

Dr. Bryant, of Denver, was very successful in presenting his system of gold crown and bridge-work before the recent Dental Convention in Washington, D. C. It has some features that seem specially meritorious.

1st. It is put on without much destruction to the natural teeth, and therefore without much inconvenience to the patient.

2d. It is light, easily adjusted and comfortable.

3d. It is comparatively cheap (to the dentist), not taking nearly so much gold or time for construction as most crown and bridge-work.

4th. The artificial teeth used are never broken, as they are subjected but little to the fire.

5th. Their construction is not complex; any ordinary dentist can learn to make them, and with few tools and facilities not already at hand.

FOR OUR PATIENTS.

TO CURE OBESITY AND DYSPEPSIA.

The cure of obesity and dyspepsia, and many other common ailments, is generally easier than we suppose; and their cure would be more frequent if it called for less self-denial. This cure is simply moderate eating, yet how many of us will acknowledge we eat too much or improperly? It would be vulgar and offensive to call a person a glutton; yet most of us eat too much and are not conscious of our fault. Like the foolish girl with her corsets, who becomes wasp-shape by such slow degrees through such continual slight squeezing that she is hardly conscious of any crime, we gluttons get so slowly in the habit of overeating by pampering our appetites that we are shocked when accused of self-destruction. We merely satisfy our appetite. But by overindulgence, our appetite has become so abnormal it is no criterion. Unless we satisfy it to satiety, we complain we have not had enough. We are not satisfied when we have eaten all we can of one thing. If we had to leave the table with one course, we should soon feel a "goneness," as the young lady says when she leaves off her corsets as an artificial support. Yet it might be best for us both to feel this till nature came to our assistance. Jay Gould had the means of having everything the market could supply, and like other men he indulged in the richest his cook could produce till he became a miserable dyspeptic, then he limited himself to a simple diet and enjoyed its digestion. It seemed rather strange to see him eat for breakfast his one course of baked potatoes and steak, or of fruit and bread and butter, when the others had such dainty dishes; and for lunch to sit down to a bowl of bread, or pudding, and milk; and something nearly as simple for his third meal when the rest of the family had a "swell dinner;" but he enjoyed it, and enjoyed its digestion much better than the others enjoyed their seven courses. Major Vanderbilt used to say, "No one knows the sweet and nutty taste of a dry crust but he who eats it without butter and eats it slowly."

Speaking of a single course at a meal reminds us of an incident that shows we may be a glutton and yet confine ourselves to one course. A friend and I were invited to a poor man's home to dinner. The good wife did her best. We had five roasted fowls for four of us. The mashed potatoes, buttered and creamed, were superb, and there were many side dishes. As a first course, we

were each served with a bountiful supply of potatoes and half of a chicken, and enough "stuffing" for a whole meal, with rich gravy to smother it. In an incredibly short time my friend had "licked his plate and looked longingly to the platter."

"Shall I serve you to another piece of fowl?" inquired the good woman.

"If you please," he replied; and his plate was loaded as at first. The coffee was also renewed. Again his plate was cleared.

This time a whole bird, dressing and all, was placed at his disposal. He modestly remarked he would take no potatoes. After finishing his second chicken without eating anything with it, and drinking a third cup of coffee, he meekly remarked, when dessert was passed, "I will take no pie, for I am under the doctor's care for obesity, and am obliged to confine myself to a single course at each meal. Of course he was not a glutton, for he belonged to our honorable profession. Had he been of the common herd he would have been—a hog.

Yet one of the most successful cures for obesity and dyspepsia is a single course for a meal. This "cure" came from a French army surgeon who was applied to by an officer whose obesity was very great. Others have found it of signal benefit. But the secret is not so much in the single course, as that a single course generally restricts us to moderation. We get satiated on it before repletion. But the above incident was certainly an exception.

It is not the amount we eat that builds us up so much as the amount we digest. The stomach may be so overloaded as to become enervated—hence dyspepsia; or it may be stimulated to improper exertion and produce obesity. The first may be a glutton, and yet lean and lank, and frequently hungry and unsatisfied. The stomach is so accustomed to a fullness, that like the insatiable leech it cries, "More, more!" unless it is full to repletion.

The only cure for the obese or the dyspeptic is moderation and simplicity in eating. Hence the extreme measure resorted to by some in "the starving cure." Hunger before eating is a delightful sensation, but long fasting sometimes thwarts its own end, for hunger is followed by faintness and disinclination to eat. If meals are taken at regular intervals, and graduated by the judgment as well as appetite, these disorders will gradually disappear. We say judgment as well as appetite, for, especially for some time after attempting a cure, the appetite will not be normal, and cannot be depended on. The only way to enjoy being hungry before each meal is to stop eating while we want more. Being hungry is the only way of making food a luxury. During the cure you will feel at times as though you could eat a bushel, and will crave the

most improper food. But persistence in well doing will gradually regulate these things, and result in a healthy, enjoyable, reasonable appetite and digestion.

There may be some who do not eat enough, but most of us eat too much, and some of the compounds we call food are villainous. Often we are forced to say, God sends wholesome food into the kitchen, but the devil cooks it.

SWALLOWED PLATES.

Three deaths in one month from swallowing dentures quite suggests the fact, that even the more mechanical side of our work should not be entrusted to the unskilled and ignorant. We confess we marvel not at these having died, but at the accident not being far more frequent than it is. The number of badly made, ill-fitting, worn-out dentures which are being worn is enormous. The first was the case of Andrew Henderson, who was employed by J. J. & G. Scott, oil merchants, Dobbie's Loan, St. Rollox. Nothing definite is known as to how the accident occurred, but on Monday, January 21st, Dr. Mackeller Dewar, Stirling Road, was called in, and on examination discovered that Henderson had swallowed his artificial teeth. He ordered his immediate removal to the Royal Infirmary where he was taken in an insensible condition. Every remedy was tried, but the man remained insensible and died on the following Saturday. The second was reported on January 31st to the Liverpool coroner. The victim, Healey, aged 60, was a boatswain of a ship now in port; he had been seized with a fit of coughing, during which his artificial teeth became lodged in his windpipe. He was removed to the hospital, where an operation was performed, but the sufferer died. The third was a barman, who, some twelve months ago, accidentally swallowed his artificial teeth during a violent fit of coughing. He went to the London Hospital, but was not operated on, as the surgeons when sounding him were unable to find where the teeth had lodged. The patient afterward returned to work. On the 21st of January last he was suddenly seized with illness and died the same day. A *post-mortem* showed that the plate, containing four artificial teeth, had become imbedded in the upper part of the stomach on the right side, and around it ulceration had taken place; the immediate cause of death being due to hemorrhage.

Dental Record.

NOTICES.

THE DISCOVERY OF MODERN ANESTHESIA by Dr. L. W. Nevins is quite an exhaustive treatise on that subject. It is well worth the perusal of every dentist. "The Souvenir of the Discovery of Anesthesia," accompanying the book is a fine steel engraving of the monument erected to the principal discoverers of chloroform and nitrous oxid.

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CATCHING'S DENTAL COMPENDIUM for 1893 is now on sale. This, as its title indicates, is a resumé of dental literature for last year. Of course it does not contain all, but selections of what the editor believes will be the most appreciated on operative and prosthetic dentistry, crown and bridge-work, orthodontia and medical and surgical treatment. The price is \$2.50. The experience of Dr. Catching as a dentist, editor of the *Dental Journal*, and now of this specialty for three years, gives him great advantages for this work.

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THE RISE, FALL AND REVIVAL OF DENTAL PROSTHESIS, by Dr. B. J. Cigrand, second edition, is quite a book for the pastime of dentists. Many who may think they are well versed in the history of their chosen profession will here find many facts and incidents that will be new to them.

It is to be regretted that the libraries of most dentists are so meager in literature bearing on their life work. If it is true that a man may be known by the character of his library, we are afraid there is not much scientific or even literary dentistry in most of us.

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The New Hampshire Board of Registration in Dentistry will meet at Concord, June 26th, and 27th, 1894. All persons intending to appear before said board should apply to the Secretary as soon as possible.

Edward B. Davis, D.D.S., Concord, Secretary.

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The Midwinter Fair Dental Congress will be held at San Francisco, Cal., June next from the 11th to 15th, inclusive. All reputable legal dentists of the nine States and Territories of the Pacific slope, together with those east of the Rockies who wish to join with us, are expected and urgently requested to attend this meeting, bringing with them any and everything that may be of interest to the profession.

The Pennsylvania State Dental Examining Board will meet for the transaction of business at Cresson, Pa., Tuesday, July 10th, 1894.

J. C. Green, Secretary.

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On March 27th, 1894, the Arizona Territorial Dental Association was formed with a membership of sixteen. Dr. L. H. Goodrich, of Phenix, President; Dr. J. M. Marshall, Vice-President; H. J. Jessop, of Phenix, Secretary and Treasurer.

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KANSAS CITY DENTAL COLLEGE.—The commencement exercises of the twelfth year of the Kansas City Dental College were held in the Grand Avenue Methodist Church, March 5th, 1894. The whole number of matriculants for the session was 113. The number of graduates was 16. The degrees were conferred by C. B. Hewitt, D.D.S., President of the Faculty. The annual address was by Alton H. Thompson, D.D.S., of Topeka.

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The commencement exercises of the Birmingham Dental College were held in Seal's Music Hall, Birmingham, Ala., on Wednesday, March 7th, 1894, at 8 P.M. The address to the graduating class was delivered by Capt. W. C. Ward. The valedictory address by D. C. Cosby. The number of matriculants for the session was twenty-seven. The degree of D. D. S. was conferred on the following graduates:

Drury C. Cosby, John H. Rice, William P. Stinson, all of Alabama.

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At the annual meeting of the Mississippi Board of Dental Examiners, April 3d, 4th and 5th, there were thirteen applicants; the successful candidates being J. R. Moore, W. P. Davis, W. O. Talbert, A. B. Kelly, A. T. Pierce and J. E. Johnson. The system of the Illinois State Board, as recently published in the *Dental Review*, was adopted, and worked very successfully. No oral examinations were held; however, additional lists of questions were prepared on Oral Surgery, Prosthesis and Orthodontia. Each applicant who passed the written examination successfully was also required to clinic.

W. E. Walker, Bay St. Louis, Miss.

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The following are the new officers of the Alabama Dental Association: Dr. H. D. Boyd, Troy, President; Dr. O. C. Farish, Camden, First Vice-President; Dr. H. B. Williamson, Evergreen, Second Vice-President; Dr. S. W. Foster, Decatur, re-elected Secretary; Dr. G. M. Rousseau, Montgomery, re-elected Treasurer; Drs. E. Wagner, Montgomery; P. R. Tunstall, Mobile; J. S. Bailey, Demopolis, Executive Committee.

OBITUARY.

The St. Louis Dental Society met on May 1st at the Missouri Dental College. During the meeting the following resolutions were adopted :

Resolved, That in the death of Dr. W. H. Eames this Society has lost a valuable member, one deeply interested in the progress of his profession, and for years a prominent supporter and contributor to its leading journals.

This Society gratefully acknowledges his services in advancing its interests and preserving the high standard of dentistry.

We extend our heartfelt sympathies to his bereaved family, and mourn with them the loss of a devoted husband and father—our brother—of whom it can be truly said that those who knew him best loved him best.

Resolved, That copies of these resolutions be furnished to the dental journals for publication, and a copy be sent to the bereaved family.

A. H. Fuller, John C. Harper, Wm. N. Morrison.

At the regular meeting of the Chicago Dental Society, April 3d, 1894, the following resolutions were unanimously adopted :

WHEREAS, It has come to the knowledge of the members of the Chicago Dental Society that the profession is called to mourn the loss of one of its most distinguished and honored members ; therefore, be it

Resolved, That in the death of Professor W. H. Eames, of St. Louis, the world has lost one of its foremost educators, his family a devoted husband and father, and the profession a sincere, earnest and useful devotee. It is fitting that this Society should pay its tribute of respect to one who has so long and honorably filled these positions before the world ; and we mourn his death as a personal loss to each and all of us ; be it further

Resolved, That a copy of these encomiums be transmitted to the family, and a further copy be sent to the dental journals for publication.

A. W. Harlan, Truman W. Brophy, Edgar D. Swain, Committee.

At the same meeting the following officers were elected for the ensuing year :

J. H. Wolley, President ; C. E. Bentley, First Vice President ; D. M. Gallie, Second Vice-President ; A. H. Peck, Recording Secretary ; H. A. Costner, Corresponding Secretary ; E. D. Swain, Treasurer ; J. J. Whaley, Librarian ; J. N. Crouse, Director.

H. A. Costner, Cor. Sec.